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Volume 3

Number

MUSEUM NEWS

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MUSEUM NEWS

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ON THE COVER: The twisting design of the Moebius Band is a popular geometrical curiosity at "A World of Numbers," mathematics exhibit at the California Museum of Science and Industry, Los Angeles. When the Museum visitor activates the exhibit the arrow averses the Moebius Band on a rail, proving that it has a single continuous surface and edge. The exhibition is discussed in the cover article, "Mathematics on Exhibition," by Bob Reardon, Director of Public Relations, and Jack Lambie, Director of Education, beginning on page fourteen of this issue.

OFFICERS: President, Froelich G. Rainey; Vice-Presidents, Louise Condit, Louis C. Jones, Perry T. Rathbone, Hugo G. Rodeck; Treasurer, James M. Brown, III. **COUNCILORS:** Edward P. Alexander, Robert Woods Bliss*, Stephan F. Borhegyi, Henry D. Brown, James M. Brown, III, Clyde H. Burroughs*, Leonard Carmichael, Louise Condit, Mrs. Lammot du Pont Copeland, Christopher Crittenden, Murl Deusing, Clark C. Evernham, David E. Finley*, Richard E. Fuller, Wilbur H. Glover, Carl E. Guthe*, Chauncey J. Hamlin*, William G. Hassler, Robert T. Hatt, Harold K. Hochschild, Louis C. Jones, Mrs. R. H. Kress, Sherman E. Lee, Kenneth D. Matthews, Jr., Robert C. Miller, William M. Milliken*, Charles E. Montgomery, Charles Nagel, M. Graham Netting, Froelich G. Rainey, Perry T. Rathbone, S. Dillon Ripley, Hugo G. Rodeck, James J. Rorimer, Paul J. Sachs*, John Walker. **Director Emeritus**, Laurence Vail Coleman.
*Honorary

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ACQUISITION



A ROYAL BUSHONGO PORTRAIT STATUE from the African Congo has been acquired by the Department of Primitive Art and New World Culture of the Brooklyn Museum. The statue represents Bom Bosh, 96th King of the Bushongo Tribe that reached its greatest power in the Seventeenth Century. The seated wood figure is $19\frac{3}{4}$ inches high. The King's reputation as a warrior is symbolized by an amputated hand, carved in relief on the drum standing before the King. This statue is the only one in the country. Nineteen statues are known, the others are in European collections.

NEWS LINE

Museum of Modern Art Plans Circulating Exhibits Abroad

Plans for sending more than 500 American works of art to Europe and South America were announced in May by the International Council of the Museum of Modern Art.

Among the exhibitions will be *Modern American Drawings*, one-man shows of work by Leonard Baskin, Ben Shahn and Mark Rothko, and an exhibition of *Visionary Architecture*.

The Council will also sponsor the United States representation at the Sao Paulo Bienal in Brazil next September.

The Museum of Modern Art program of circulation exhibitions abroad, under the direction of Porter A. McCray, is the largest privately supported cultural exchange program in the world. Since 1938 the Museum has organized more than 100 shows which have been circulated to over 260 communities in nearly 60 countries around the world. Since 1957 the International Council, a group of approximately 100 art patrons and community leaders from various parts of the United States, has sponsored the program with the aid of a Rockefeller Brothers Fund grant.

American Folk Art to be Shown in England

American folk art in paintings and sculpture, from the Abby Aldrich Rockefeller Folk Art Collection, Williamsburg, Virginia, will be shown in England at the July opening of the American Museum in Britain.

Mary Black, Director of the Abby Aldrich Rockefeller Folk Art Collection, called the museum opening "an exciting reversal of the trend toward European works of art being imported to the United States."

The 19th-century folk art will be on exhibit from July through September.

Detroit City Hall

The battle over Detroit's Old City Hall continues to rage after two years. "The people of Detroit should have a chance to vote on Old City Hall's future," Judge Lila M. Neuenfelt said when hearing a suit. She got a promise from the city's corporation council that nobody would move toward razing the structure. 75 per cent of Detroiters favor keeping the building.

Grant to Detroit Historical Society Museum Fund

The McGregor Fund, Michigan, has granted \$25,000 to the Detroit Historical Society Museum Fund, Michigan, for expansion of their educational facilities.

Boston Museum Purchases Three Paintings

The Boston Museum of Fine Arts announced the purchase of three paintings from the current Provisional Collection exhibit at the Institute of Contemporary Art.

The artists whose work was selected are Karel Appel from Holland, John von Wicht born in Germany, and Genichiro Inokuma from Japan. Three years ago the Institute of Contemporary Art set up, with assistance from the Museum, an Acquisition Society which began purchasing contemporary art. The Institute holds these for three years, after which they are offered to the Museum for possible repurchase, and another three years extension is given if requested. If after six years the Museum decides not to purchase a given work it will revert to the Acquisition Society sponsor who selected it. The plan provides patronage for artists, gives the Institute of Contemporary Art a temporary collection, and gives the Museum of Fine Arts from three to six years' time to make a final decision.

Dr. Arnold J. Toynbee to Lecture at Williamsburg

Dr. Toynbee, noted author and historian, will deliver the principal address at the Prelude to Independence ceremonies to be held on Saturday, June 10, at Williamsburg, Virginia.

Student delegates from 46 foreign countries will convene for the fifth annual Williamsburg International Assembly, to be held June 11-14. The theme for this year's Assembly is "The American Cultural Scene: Roots and Realities."

Speakers and discussion leaders will include René d'Harnoncourt, Director of the Museum of Modern Art; Fred C. Cole, President of Washington and Lee University; John Fischer, Editor of Harper's Magazine; Max Lerner, historian, author and columnist; Robert Gorham Davis, Professor of English at Columbia University; Howard Hanson, Director of the Eastman School of Music at Columbia University; Mrs. Walt W. Rostow, historian and economist of the Massachusetts Institute of Technology; and Ira Reid, Head of Haverford College's Department of Sociology.

Each delegate will be encouraged to express himself frankly on what he considers significant phases of his American experience.

Robot Created by 13 Year Old Boy Installed in Brooklyn Children's Museum

A six-foot robot, capable of "seeing" an object and "sensing" the presence of people or things, was put on view on the first floor of the Brower Park building in May.

The robot is the creation of Donald S. Rich of Kew Gardens, Queens, who made the electronic man in 1957 when he was 13 years old. Donald was present at the Brooklyn Children's Museum to explain the robot and its workings to visitors in the Gallery.

National and

National Park Service Sets up Regional Clearing House Procedures

Harry C. Parker, Museum Specialist, Branch of Museums, National Park Service, reports that Clearing House procedures have been provided in five regional offices: Philadelphia, Richmond, Omaha, Santa Fe and San Francisco. The *Museums Directory of the United States and Canada* lists 144 National Park Museums, but some of the entries combine several museums under one park, and additional ones have been opened since the directory went to press; an inventory has disclosed more than 2,000,000 specimens under National Park Service care. According to Mr. Parker, it will be the purpose of the clearing houses to refine these collections and fill gaps.

The park superintendent will send to his regional director a list of specimens needed and a duplicate catalogue card for each specimen in the collection which seems to be inappropriate to the needs of the park. The regional director sets up a file for all wanted and unwanted specimens. He exchanges the lists of wanted specimens with other regions and compares the other regional want lists with the card files of non-pertinent specimens. Whenever he finds an unneeded specimen which appears to be useful to another park, the regional director sends a description of the specimen to the latter. He also arranges long-term loans, of non-exchangeable, inappropriate specimens, to institutions which can put them to good public use. These arrangements are subject to approval of the superintendent of the park involved.

University of Wisconsin Receives Grant

The Rotjman Foundation, Wisconsin, has granted \$10,000 to the University of Wisconsin for the Rotjman Seminar and art lectures.

Map Guide to Museums in Catskill Area

A map locating museums in the counties of Orange, Rockland, Sullivan, and Ulster has been prepared by the Old Museum Village of Smith's Clove at Monroe, New York.

Leland A. Smith, president of the museum, has explained that the museum published the map to make the public more aware of its heritage. The map will be available to hotels, motels, service stations, Chambers of Commerce, and historical societies for posting, and to the general public on request.

Summer Courses at Texas University

The University of Texas will offer graduate studies in art during the 1961 Summer Session, Dr. Donald Goodall, Art Department chairman, announces. The courses will include graphics, figure drawing, design and pictorial composition, painting, commercial art, and art education. In addition to work for artists and teachers, the Art Department will offer an introductory course in visual arts directed particularly to laymen.

Fund for Historic Savannah Foundation

A sum of \$3,000 was recently voted by the Junior League of Savannah, Georgia, to the Historic Savannah Foundation. The fund will finance a study of possible restoration and preservation in the downtown area and will finance publication of a pictorial brochure. The brochure will be used to obtain contributions to set up a revolving fund, which would take Historic Savannah's operation off a "crash" basis. The survey is to be made by Carl Feiss, city planning consultant, who visited Savannah last year as a Gilmer Series Lecturer and expressed admiration for its architectural value.

National and International

Royal Ontario Museum Announces Expeditions

The Royal Ontario Museum has announced that an expedition is now in British Honduras making preparations for a five-year research project at one of the jungle cities of the ancient Mayas. Dr. William Bullard, an experienced archaeologist who was recently appointed Field Director of the expedition, will make recommendations on the site to be excavated.

This will be the second Royal Ontario Museum expedition this year to go to a British Commonwealth country in the Caribbean. Dr. Randolph Peterson, the Museum's curator of mammals, has been in British Guyana collecting specimens.

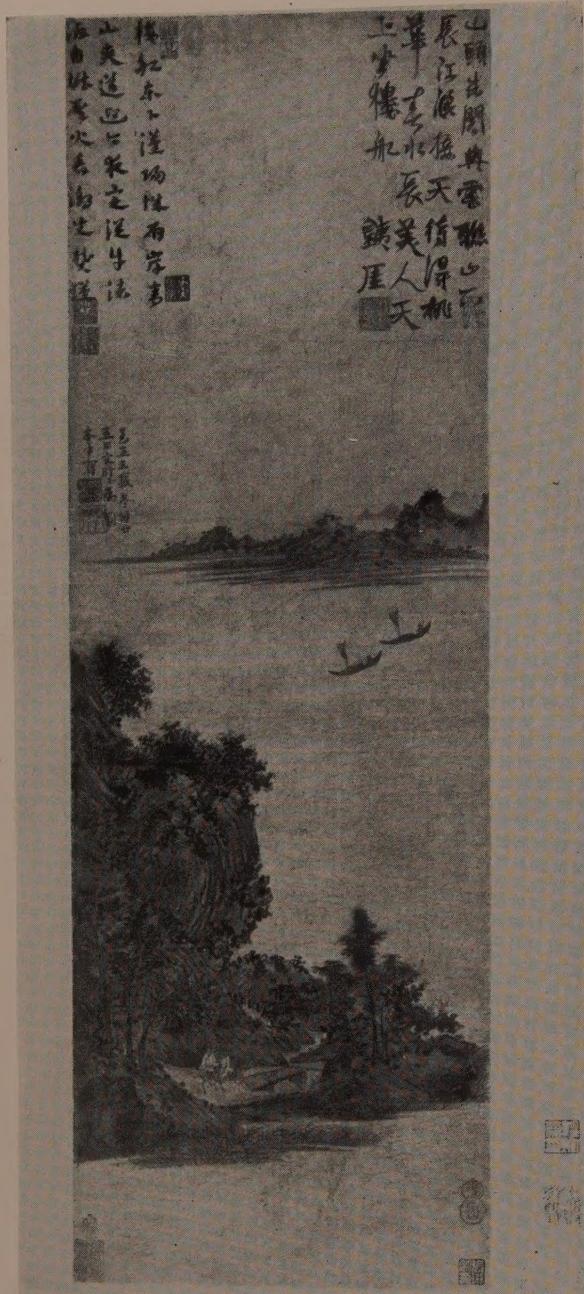
Film Presented to Simon van der Stel Foundation

A forty-five-minute full-color film, "Architecture—Mirror of Our Past" was presented to the Simon van der Stel Foundation by the Bottlers of Coca-Cola in South Africa. The film's aim is to encourage the restoration, preservation and maintenance of South Africa's architectural heritage. Of 3,000 eighteenth-century structures, only 300 still remain today.

Course in Archaeology

The British Council announces a late summer course running from the 17th to the 30th of September, 1961, in Archaeology, for younger archaeologists from overseas.

The course will be based on Salisbury Museum and others, and on material in the field and in museums in southern Britain. The Director of studies will be Professor Stuart Piggott, Head of the Department of Prehistoric Archaeology at the University of Edinburgh. Applicants should write to the Director, Courses Department, The British Council, 65 Davies Street, London W.1.



Painting on Paper, dated 1343; Signed *Ma Wan*

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NEWS LINE

Franklin Institute Receives Gift

A \$100,000 gift from the Pew Memorial Trust was announced by the Franklin Institute for its science education expansion program.

The Institute formally launched a \$2,500,000 campaign to finance the program at a dinner April 19, attended by 200 Philadelphia business and civic leaders.

President Wynn Laurence LePage said: "Our country urgently needs more scientists, engineers and science teachers. The ultimate solution of this problem lies in our ability to make science more interesting and challenging to our young people. A gift such as this, coming as it does from one of our leading industrial families, reaffirms our determination to drastically broaden the scope of our science education activities."

Dr. James R. Killian, Jr., Chairman of Massachusetts Institute of

Technology, speaking at the dinner, said that this program "stands as one of the most important and imaginative efforts in the nation to enhance, through education, the national strength in science."

Montreal Museum of Fine Arts Loaned Paintings to Mexico

Seven paintings owned by the Montreal Museum of Fine Arts were sent on loan to two art galleries in Mexico for an exhibition honoring the 150th anniversary of Mexican independence, according to Dr. Evan H. Turner, Director.

Canadian painting, sculpture, graphic arts and Indian and Eskimo work were on exhibition in the Museo de Bellas Artes, Mexico City, and the Museo de Guadalajara, until April, 1961.

Newark Museum Revives Training Course

Katherine Coffey, Director of the Newark Museum, Newark, New Jersey, announced in May that the Museum's Apprentice course, suspended since 1942, will be revived this fall, offering to a limited number of young men and women the opportunity of training in museum techniques and management. To qualify, candidates must have a college degree, be under 30 years of age, and be available for a personal interview.

Grant to American Craftsmen's Council

The Rockefeller Foundation, New York, has granted \$101,000 to the American Craftsmen's Council, New York, for four-year aid to reference service expansion.



Orchid and Hummingbirds in a Tropical Landscape

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Off the Presses

ART STYLES OF THE PUAN GULF. By Douglas Newton. Catalogue of an exhibition at the Museum of Primitive Art. Introduction by the Author. Acknowledgments. 100 pp. 265 illustrations. New York: University Publishers, Inc. (1961) \$6.00.

THE ART OF THE T'ANG POTTER: A Studio Book. By Mario Prodan. Bibliography and Index. 186 pp. 154 illustrations, 34 in color. New York: The Viking Press, Inc. (1961) \$20.00.

CHECK LIST OF THE AMPHIBIANS AND REPTILES OF CANADA AND ALASKA: A Revision of Contribution No. 41. By E.B.S. Logier and G.C. Toner. Contribution No. 53, Life Sciences Division, Royal Ontario Museum. Introduction and Bibliography. 92 pp. 77 maps. Toronto, Ontario: University of Toronto Press (1961) Price not given.

DIRECTORY OF HISTORICAL SOCIETIES AND AGENCIES IN THE UNITED STATES AND CANADA, 1961. Compiled by Clement M. Silvestro and Sally Ann Davis. Preface by the Authors. 111 pp. Madison, Wisconsin: American Association for State and Local History (1961). \$1.50.

EAST INDIANS IN THE WEST INDIES. By Arthur and Juanita Niehoff. Publications in Anthropology, Number 6, Milwaukee Public Museum. Introduction and Summary. 192 pp. 46 illustrations. Milwaukee, Wisconsin: Olsen Publishing Co. (1960). Price not given.

EASTER EGGS AND OTHER PRECIOUS OBJECTS BY CARL FABERGÉ: A Private Collection of Masterworks Made for the Imperial

Russian Court. Corcoran Gallery of Art, Washington, D. C. Foreword by Hermann Warner Williams, Jr. Introduction by A. Kenneth Snowman. 60 pp. 26 illustrations in color. Washington, D.C.: H. K. Press (1961). Price not given.

ELEVATOR SYSTEMS OF THE EIFFEL TOWER 1889. By Robert M. Vogel. Contributions from the Museum of History and Technology, United States National Museum, Paper 19, Bulletin 228. 40 pp. 41 illustrations. Washington, D.C.: U.S. Government Printing Office (1961). Price not given.

INDIAN ART OF THE AMERICAS. A Selection of illustrations from the Denver Art Museum's collection, to represent the outstanding achievements of American Indian artists. Introduction by Royal B. Hassrick. 108 pp. 94 illustrations. Denver, Colorado: Art Museum (1960). Price not given.

JAPANESE CERAMICS FROM ANCIENT TO MODERN TIMES: Selected from Collections in Japan and America. Edited by Fujio Koyama. Foreword by Paul Mills. Preface by Koremori Ozaki. List of Lenders, Catalogue and Bibliography. 70 pp. Illustrated. Oakland, California: Oakland Art Museum (1961). Price not given.

JOHN ERICSSON AND THE AGE OF CALORIC. By Eugene S. Ferguson. Contributions from the Museum of History and Technology, United States National Museum, Paper 20, Bulletin 228. 19 pp. 12 illustrations. Washington, D.C.: U.S. Government Printing Office (1960). 15 cents.

LATE PALEOZOIC SPONGE

FAUNAS OF THE TEXAS REGION: The Siliceous Sponges. By Robert M. Finks. Bulletin of the American Museum of Natural History, Volume 120, Article 1. 160 pp. 77 figures, 50 plates. New York: American Museum of Natural History (1960). \$5.00.

METRO: Volume 1. By Bruno Alfieri. Index. 117 pp. illustrated. New York: George Wittenborn, Inc. (1961) \$5.00.

ORCHIDS OF PERU. By Charles Schweinfurth. Fieldiana: Botany, Volume 30, Number 4. 218 pp. Illustrated. Chicago, Illinois: Natural History Museum Press (1961) \$4.50.

PHYSICS AND ARCHAEOLOGY. By M. J. Aitken. Research Laboratory for Archaeology and the History of Art, University of Oxford, England. Preface by the author. Index. 181 pp. Illustrated. New York: Interscience Publishers, Inc. (1961). \$6.00.

A REVISION OF THE GENUS DIPLOTAXIS (COLEOPTERA, SCARABAIDAE, MELOLONTINAE): Part 2. By Patricia Vaurie. Bulletin of the American Museum of Natural History, Volume 120, Article 2. 273 pp. 229 figures, 5 tables. New York: American Museum of Natural History (1960). \$5.50.

TOOTH REPLACEMENT PHENOMENA IN THE LOWER VERTEBRATES. By A. Gordon Edmund. Contribution No. 52, Life Sciences Division, Royal Ontario Museum. Preface and Introduction. 190 pp. 58 illustrations. Toronto, Ontario: University of Toronto Press (1960). Price not given.

NEWS LINE

San Bernardino County Museum Association Offers New Program for the Science Field

The San Bernardino County Museum Association, Bloomington, California, presents exhibits, displays, lectures, and special classes to stimulate interest and strengthen science education for all members of the community. Dr. John Goodman from the University of Redlands last year spoke on Africa. A twelve-week Saturday morning science class has recently been completed for junior high school students.

Legal Action by Save Walden Committee

A Massachusetts Superior Court judge permanently enjoined Middlesex County Commissioners from "violating any more of the provisions of the deeds in which Walden Pond and its environs were left to the Commonwealth." When the commissioners three years ago leveled woodland to provide better access to a public beach area, a group known as the Save Walden Committee took legal action to halt the work.

Research Query

Articles on the contributions of Americans of German or Austrian descent to our American scene are invited by the Carl Schurz Memorial Foundation, a private, American, non-profit organization with headquarters in Philadelphia's Old Custom House, 420 Chestnut Street, for *The American-German Review*, printed in English.

Gift to St. Louis Museum of Science and Natural History

Announcement of a \$40,000 gift for the establishment of a Hall of Health at the Museum of Science

and Natural History, St. Louis, Missouri, has been made by Stratford Lee Morton, President of the Academy of Science of St. Louis. Donors are the Famous-Barr Company, Morton J. May, and the Beaumont Foundation.

Saint Paul Gallery Announces Drawing Competition

The Saint Paul Gallery and School of Art, St. Paul, Minnesota, announces the presentation of its first biennial competition "Drawings-USA." The show is scheduled for the fall of 1961 and will be open to all artists living in the United States. For entry blanks, write "Drawings USA," 476 Summit Avenue, St. Paul, Minnesota.

Projected Restoration of Lining House, Charleston, South Carolina

The Preservation Society of Charleston, South Carolina, is seeking \$64,000 to purchase and restore the Lining House, c. 1720. It is thought to be one of the earliest of drug stores remaining in the United States; the first store in the house was opened in 1781, the last closed in 1960.

Travel for Credit Courses Offered by Western Illinois

For the seventh year Western Illinois University offers art credit on a Mexico field study tour. This is a tour by modern motor coach, originating and ending in St. Louis, July 17th through August 18th. The itinerary includes Dallas, San Antonio, Monterrey, San Luis Potosi, Guadalajara, Mexico City, Taxco, and Puebla. Write Dr. Gifford C. Loomer, Department of Art, Western Illinois University, Macomb, Illinois.

Shaker Community in Hancock, Massachusetts

The Hancock (Massachusetts) Shaker Community will be open to the public in July, 1961. The property, consisting of seventeen buildings and 932 acres of land, is in the possession of Shaker Community, Inc. The last Hancock Shaker left the community last year.

The first building to be restored in its entirety is a typical sisters' shop. True to the Shaker ideal of neatness, attention has been given to the appearance of yards, walks and fences. A long row of pink and crimson roses and an herb garden is being laid out. The grounds are open for inspection this season.

The master plan includes the restoration, with equipment or furnishings, of the round stone barn, built in 1826; the machine shop and laundry (1790); the trustees' office and store (1820-30) and others.

For literature concerning the program of Shaker Community, Inc., write to Mrs. Lawrence K. Miller, 500 Williams Street, Pittsfield, Massachusetts.

Restoration in New Orleans

Restoration of two early buildings in New Orleans' French Quarter, the Cabildo and the Presbytere, will be started in the near future. After a long battle the work was authorized last year by the Louisiana legislature, making available funds to \$900,000.

Sylvester Mansion, Olympia, Washington, Saved from Demolition

The Olympia (Washington) Audubon Society has completed a successful campaign to save from demolition and move to a new site the 105-year-old Sylvester Mansion. The house was built in 1856.

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Recent Museum Catalogues

ARTS OF SOUTHERN CALIFORNIA—VIII: DRAWING: A Survey Exhibition. Long Beach Museum of Art, Long Beach, California. A circulating exhibition. Introduction by Jerome Allan Donson. 80 pp. 93 illus.

THE DISCOVERY OF THE WEST. Phoenix Art Museum, Phoenix, Arizona. Lenders to the Exhibition. Acknowledgments. 13 pp. 16 illus.

DRAWINGS FROM TUSCANY AND UMBRIA, 1350-1700. Mills College Art Gallery, Oakland, California; University of California Art Gallery, Berkeley. Preface and Introduction by Alfred Neumeyer. Catalogue. 38 pp. 21 illus.

DYNAMIC SYMMETRY: A Retrospective Exhibition. Museum of Art, Rhode Island School of Design, Providence, Rhode Island. List of Lenders. Acknowledgment and Foreword by David G. Carter. Catalogue and Bibliography. 60 pp. Illus.

FACULTY SHOW 1960. Syracuse University School of Art. Introduction by Laurence Schmeckebier. 45 pp. 44 illus.

FIRST ANNUAL PAINTING AND SCULPTURE EXHIBIT—1960. Art Center, La Jolla, California. Introduction by H. H. Arnason. 10 pp. 10 illus.

A FLEXAGON OF STRUCTURE AND DESIGN. Milwaukee Art Center, Milwaukee, Wisconsin. Introduction by Arthur A. Carrara. Chronology. 46 pp. illus.

GERMAN EXPRESSIONISM. Pasadena Art Museum, Pasadena, California. Introduction by Thomas W. Leavitt. Catalogue. 34 pp. 18 illus. 2 in color.

GREAT PERIODS OF TAPESTRY. Allentown Art Museum, Allentown, Pennsylvania. Introduction by Richard Hirsch. Catalogue. 4 pp. 31 plates. (boxed).

IMAGES OF HISTORY. Denver Art Museum, Denver, Colorado. List of Lenders. 20 pp. 34 illus.

LANDSCAPE: PAST AND PRESENT: A Survey Exhibition, Chronological development to present. Long Beach Museum of Art, Long Beach, California. Introduction by Jerome Allan Donson. 4 pp. 2 illus.

MARIE AND AVERELL HAR-RIMAN COLLECTION. National Gallery of Art, Smithsonian Institution, Washington, D.C. Foreword by John Walker. Catalogue and Index. 63 pp. 39 illus.

MASTERS OF CONTEMPORARY AMERICAN CRAFTS. Brooklyn Museum, Brooklyn, New York. Introduction by Marvin D. Schwartz. List of Lenders. 13 pp. 8 illus.

PAINTINGS BY HELEN FRANK. Washington County Museum of Fine Arts, Hagerstown, Maryland. 9 pp. 8 illus.

PAINTINGS FROM THE ARENSBERG AND GALLATIN COLLECTIONS OF THE PHILADELPHIA MUSEUM OF ART. Solomon R. Guggenheim Museum, New York, New York. Introduction by Henry Clifford. Short Biographies. 40 pp. 12 plates. \$1.00.

ROMAN PORTRAITS: First Century B.C. through Fourth Century A.D. Worcester Art Museum, Worcester, Massachusetts. Introduction, notes and Roman chronology by Michael Milkovich. Catalogue. 88 pp. 41 illus. \$1.50.

SAUL BAIZERMAN: Sculpture. Heckscher Museum, Huntington, New York. Acknowledgments. Introduction by Frieda Tenenbaum. 16 pp.

STEICHEN THE PHOTOGRAPHER. Museum of Modern Art, New York, New York. Foreword by René d'Harnoncourt. Texts by Carl Sandburg, Alexander Liberman, Edward Steichen. Biographical outline by Grace M. Mayer. 80 pp. 55 plates. Paper. \$2.50.

THE THEATRE COLLECTS AMERICAN ART: Fourth Loan Exhibition by the Friends of the Whitney Museum. Whitney Museum of American Art, New York, New York. List of Lenders. Foreword by Eloise Spaeth. Introduction by Roy R. Neuberger. Catalogue and Acknowledgments. 52 pp. 41 illus.

TWELFTH ANNUAL EXHIBITION OF REALISTIC ART: Academic Artists Association. Museum of Fine Arts, Springfield, Massachusetts. Catalogue. 20 pp. 17 illus.

TWENTY-SEVENTH BIENNIAL EXHIBITION: Contemporary American Painting. Corcoran Gallery of Art, Washington, D.C. Acknowledgments. Introduction by Hermann Warner Williams, Jr. Catalogue. 33 pp. 19 illus.

VENICE BIENNALE PRIZE-WINNERS 1960. Circulated by the American Federation of Arts, New York, New York. Introduction by Virginia Field. 23 pp. 18 illus.

VIEW 1960. Institute of Contemporary Art, Boston, Massachusetts. Introduction by Thomas M. Messer. Biographies by Anne Jenks. 45 pp. 45 illus.

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PIERRE MATISSE GALLERY

Modern
Paintings
and
Sculpture

Points of View

TO promote international exchange and cooperation, the Association for the second year, in May, 1961, invited representatives from 25 countries for a tour of museums in six midwestern states: Ohio, Kentucky, Indiana, Illinois, Wisconsin, and Michigan. Delegates attended from Australia, Canada, Czechoslovakia, Denmark, India, Israel, Mexico, Nigeria, Norway, Pakistan, Russia, Sweden, and West Germany.

The tour visited all kinds of museums—art, history, science, art centers and associations, historic houses and societies, planetariums, zoos, aquariums, and preservation projects. In addition to seeing the collections, the delegates observed techniques and methods as practiced in this country, and studied educational programs for children, young people, and adults.

From May 23rd to 26th, the delegates attended the 56th Annual Meeting of the Association, in Detroit, Michigan, where they met with more than 600 members of the American museum profession. A special forum was held on May 24th, in which the foreign visitors discussed "The Role of the Museum as an Educational Institution." In addition to the special forum the delegates participated in group discussions and workshops related to specific museum problems.

Foreign delegates assembled in Washington, D.C., on April 28th and 29th for a briefing prior to the tour, for visits to museums in the District of Columbia, and to meet with representatives of interested governmental and private agencies. On May 2nd the delegates left Washington by plane for Cleveland, Ohio. After visiting Cleveland museums the curators, with myself in charge, started on our trip in a bus chartered for the purpose. According to a pre-arranged schedule, major museums in Ohio were visited in Toledo, Columbus, Chillicothe, and Cincinnati, where the party arrived on May 9th. In Berea, Kentucky, the group was taken over by Dr. Wilcomb E. Washburn of the Smithsonian Institution, Head Curator of the Division of Political History (Department of Civil History). Between May 9th and May 23rd, museums were visited in Louisville, Indianapolis, Chicago, and Milwaukee. In each city the Director of a leading museum accompanied the group as a guide to local museums.

JOSEPH ALLEN PATTERSON



Science classrooms face on this attractive courtyard of the Science Wing.

Bob Reardon and Jack Lambie

Mathematics

Mathematics, dry and baffling to many, is yet a subject others find intellectually stimulating and artistically beautiful. Mathematics—one of man's oldest sciences, changes as rapidly as the design of tomorrow's spaceships.

How can a museum exhibit explain the rich complexity of this intangible subject to the hundreds of thousands of visitors from all walks of life who pass through its doors each year? What communications techniques can be utilized to suggest the scope and sweep of the world of mathematics?

Such were the challenges outlined for Don M. Muchmore, Museum Director, and the staff of the California Museum of Science and Industry, Los Angeles, when, in early 1959, they determined that the subject of mathematics had to be represented in the Museum's new \$2,375,000 Science Wing.

When an initial investigation revealed that there was no major exhibit in the nation devoted exclusively to mathematics, Muchmore presented this opportunity in public education to the management of International Business Machines Corporation. With generous enthusiasm IBM agreed to participate in the exhibit.

Since the purpose was to make mathematics "come alive" to museum visitors, to convey to them the rich tapestry of mathematics which covers the modern world of science with its logical web, Charles Eames, the noted designer and communications expert, was assigned the unique design problem.

Eames was the 1960 winner of the \$20,000 Kaufman Industrial Design Award. With his wife and collaborator Ray, he gained fame in 1959 by producing "Glimpses of the U.S.A." which was one of the most popular attractions at the American National Exhibit in Moscow. In design circles he is best known for his plywood and plastic "Eames Chairs."

"Mathematica—A World of Numbers and Beyond," the result of the cooperative efforts of the Museum, IBM and Designer Eames, is a bold venture in exhibit communication. It is designed to stimulate viewers on three levels of mathematical experience; the uninitiated, the person with a knowledge of basic fundamentals, and the professionally trained mathematician.

ABOUT THE AUTHORS: Bob Reardon is Public Relations Director of the California Museum of Science and Industry. A native Californian, he has been active in the public relations field since graduation from the University of California, Berkeley, in 1950. He formerly publicized Los Angeles motion picture theatres, and was Assistant Director of Public Information for the Christmas Seal agency of Los Angeles. During the Korean War, he was cited by the Third Army for an outstanding contribution to public understanding of the Army's psychological warfare program.

Jack Lambie is Director of Education for the California Museum of Science and Industry. Mr. Lambie is a graduate of the University of Illinois and holds the Master's Degree in School Administration from the University of Southern California. He is noted for his outstanding classroom ability and the teaching of basic scientific principles. A glider pilot in his spare time, Mr. Lambie is the holder of several West Coast soaring awards. He is currently President of the Southern California Soaring Association and is the author of several magazine articles on the sport.

xhibition

At the entrance to the three-thousand square foot exhibit is a large steel gate which, according to Eames, serves the function of physically and symbolically conveying the initial impression that mathematics is a self-contained world all its own.

On entering the enclosure the visitor is arrested by a collection of models in a walnut and stainless steel case. The models, made of fiberglass, steel and plastic, are esthetically beautiful in themselves and at the same time suggest the richness and variety of mathematics. Among the models are a Helix, Zeta Function, Dupin Cyclide, cones and spheres.

The left wall of the exhibit is a fifty-foot panoramic "histowall" which traces the development of mathematics. Here are presented the lives of the one hundred greatest mathematicians and their contributions, from the Twelfth century to the mathematical explosion of the last century.

Dr. Raymond Redheffer, professor of mathematics at the University of California, Los Angeles, the technical consultant on the exhibit, searched original French, Italian and German manuscripts to verify the accuracy of the histowall data. As a point of reference, the histowall has a "timeline of history" which sets forth well-known historical facts from the Crusades to the present. By this device the visitor may compare the development of mathematics with political and social history.

On the opposite wall of the exhibit is a "Mathematical Image" wall composed of man-made and natural objects that are both visually stimulating and mathematically meaningful. Sea shells, a weather map, fingerprints, a starfish, a snowflake, cracked mud, knots, a sunflower and chemical crystals—all elements of our common visual vocabulary—are among the objects displayed.

In the central area of the exhibit are eight dramatic models, several utilizing the audience participation principle, which visually and mechanically illustrate basic mathematical concepts.

The Probability Machine or "Galton Board" graphically portrays the fascination of the laws of chance. Twelve feet high and five feet wide, it is thought to be the largest probability board ever built. Some 30,000 balls three-fourths of an inch in diameter are dropped from a central point at the top of the board, which resembles a giant pinball machine standing on end. The balls strike pins as they fall, bounce against each other and against the openings to several channels below. By the time the thirty thousand balls have fallen, bounced

In this bright cube of 512 bulbs, multiplication tables and other mathematical problems are literally "brought to light."



Mathematics on Exhibition



A child peers intently at an animated "peep show" which vividly illustrates an arithmetical principle for her.

and finally found a clear channel to the bottom, a perfect bell-shaped probability curve is formed by their distribution. The complete cycle of dropping the balls, then returning them to the top position again (by a complex and ingenious retriever machine) takes some 14 minutes.

The Light Cube, which dominates the center of the exhibit, is a simulated computer made up of 512 lights that form a thirty-inch square cube. The lights are controlled by a three-column keyboard. The visitor has the visual experience of multiplying, squaring and cubing numbers by operating the keyboard. To the mathematically sophisticated, the light device also illustrates the modern "set theory" which is a basic principle of computers.

The Celestial Mechanics Device offers an interesting insight into the space age. It is some six feet in diameter, and is made up taut rubber membranes deformed to the center to produce a conic figure. A pin-ball launcher sets in motion small marbles which follow orbital paths according to their weight and inertia. As the marbles lose energy they fall into tighter and tighter orbits to the membrane center in the same way that satellites orbit around the earth.

Minimal Surface Machines, when activated, drop wires bent to geometrical forms into a soap solution. When the wires are withdrawn, the solution presents a minimal description of the particular form since the soap film contracts as much as possible while still remaining attached to the wire frame.

Projective Geometry Model consists of a large case containing two projection situations. One side shows fifteen triangular shaped pieces of brilliantly-colored metal suspended by thin wires which appear to be formless. When the viewer looks in an eyepiece at the end of the model, he sees that the two views are geometrically equivalent. The other side of the case is devoted to a circle and an ellipse mounted in a barrel of steel and wire that revolves slowly. As it turns, the circle changes into an ellipse and the ellipse changes into a circle, offering visual proof of Pascal's theorem: if any hexagon is inscribed in a conic, the points of intersection of the opposite sides will lie in a straight line.

The Moebius Band, a classic phenomenon from the field of topology, is a fifteen-foot structure which has only one side and one edge. A pushbutton activates a jointed, three-dimensional arrow which runs around a track in the center proving that the band has only one side.

Peep Shows, or individual film units, give the viewer a personal encounter with mathematical information by the use of two-minute cartoon and live-action films. The viewer sits on a small stool, puts his head inside a semi-circular box and watches and listens to the show. One of the films, for example, tells the story of Eratosthenes, a Greek astronomer of the 3rd century, B.C., who made an astonishingly accurate computation of the circumference of the earth.

To Museum Director Don Muchmore, "A World of Numbers and Beyond" is an exploratory exhibit. "We are dealing here with one of the most difficult areas of communication," Muchmore said. "What we must do now is critically test the effectiveness of our techniques as we use the exhibit in our educational program. The exhibit will be changed, modified or extended whenever we feel we can do a better job of communicating," he said.

The education department of the Museum has developed a special in-depth guide and lecture program to insure that school groups are exposed to the exhibit's rich details.

The next exhibit scheduled for installation in the Science Wing will explore the subject of electronic communications. A Hall of Health, and exhibits concerned with physics, chemistry and the mechanical sciences are in the process of preliminary research.

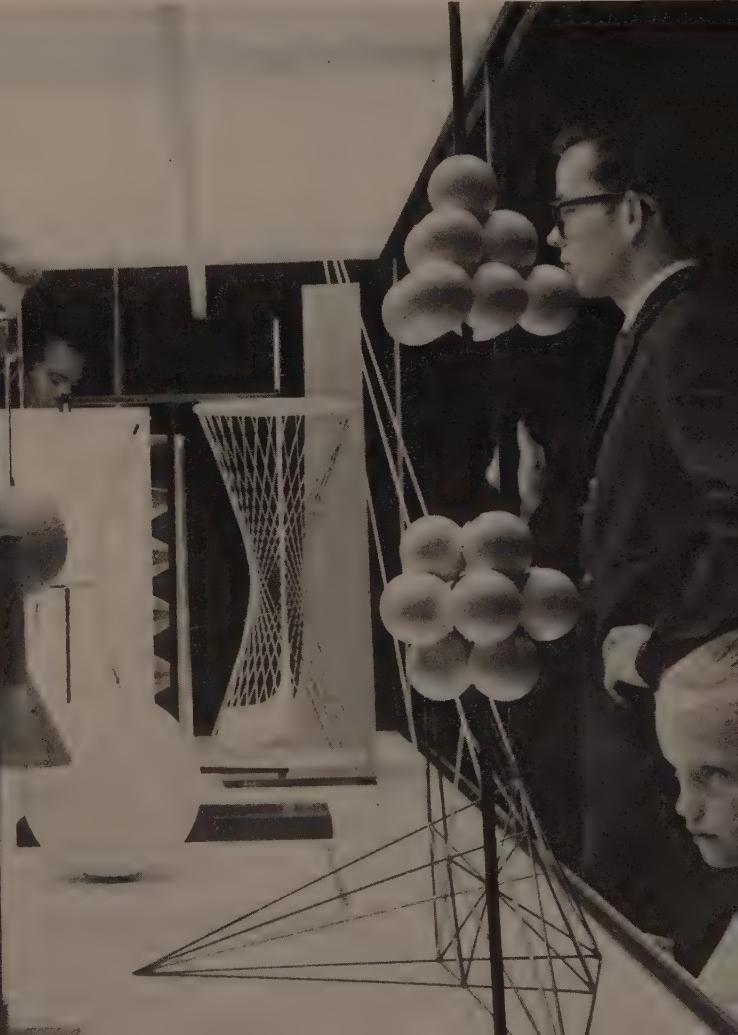
The Science Wing itself is located directly east of the main building. It is 216 by 142 feet and contains twenty thousand square feet of net exhibit space giving the Museum nearly a third more space than formerly with a total of some 100,000 square feet.

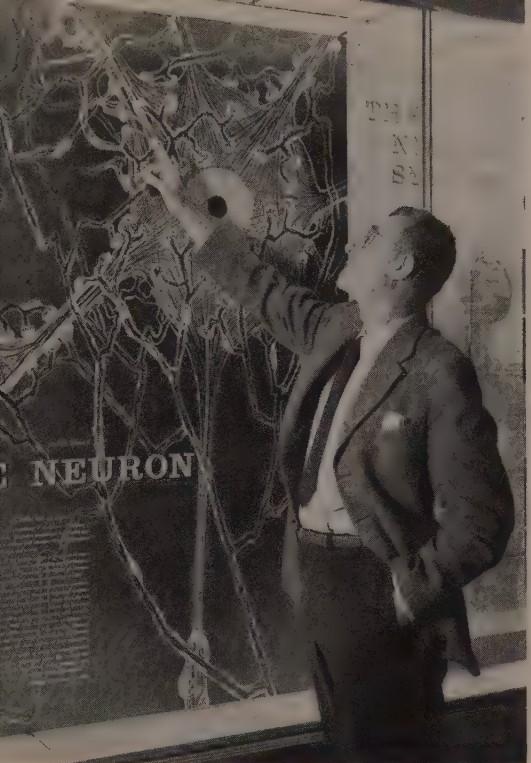
Constructed of natural white brick, the Science Wing has a barrel-vaulted roof which allows large free-space areas for exhibits. The entire structure is windowless with flexible lighting in the ceiling and floor. A corridor joins the new wing to the main building, and science classrooms are located off the corridor. An attractively landscaped courtyard on a slightly higher level than the surrounding sidewalks serves to connect the building with its environment, giving the new wing a pleasant setting.



ABOVE: These models range from an abacus to the illustration of Archimedes' proof—the balancing of cone, sphere, and cylinder (as shown in center)

BELOW: In this showcase of shapes, the artistry of mathematical forms in full dimension is captured in a rich variety of materials—bronze, marble, steel, glass, walnut, and onyx.





Harry L. Shapiro

The Biology of Man American Museum

Dr. Harry L. Shapiro, Chairman of the Department of Anthropology, describes an exhibit on the nervous system.

ABOUT THE AUTHOR: Dr. Harry L. Shapiro is Chairman of the Department of Anthropology at the American Museum of Natural History in New York. He is author of numerous works which include *Aspects of Culture*, *Race Mixture, Migration and Environment*, *Heritage of the Bounty* and others. Dr. Shapiro has been Curator of Anthropology at the American Museum of Natural History and is Professor of Anthropology at Columbia University. He has served as President of the American Anthropological Association, of the American Ethnological Society, and is now President of the American Eugenics Society. In addition, Dr. Shapiro has served as Chairman, Division of Anthropology and Psychology of the National Research Council. Since 1958 he has been Chairman of the Committee on Behavioral Sciences, National Academy of Sciences, National Research Council. Dr. Shapiro was born in Boston in 1902, was educated at the Boston Latin School and Harvard, A.B. 1923, A.M. 1925. In 1926 Dr. Shapiro received his Ph.D. from Harvard.

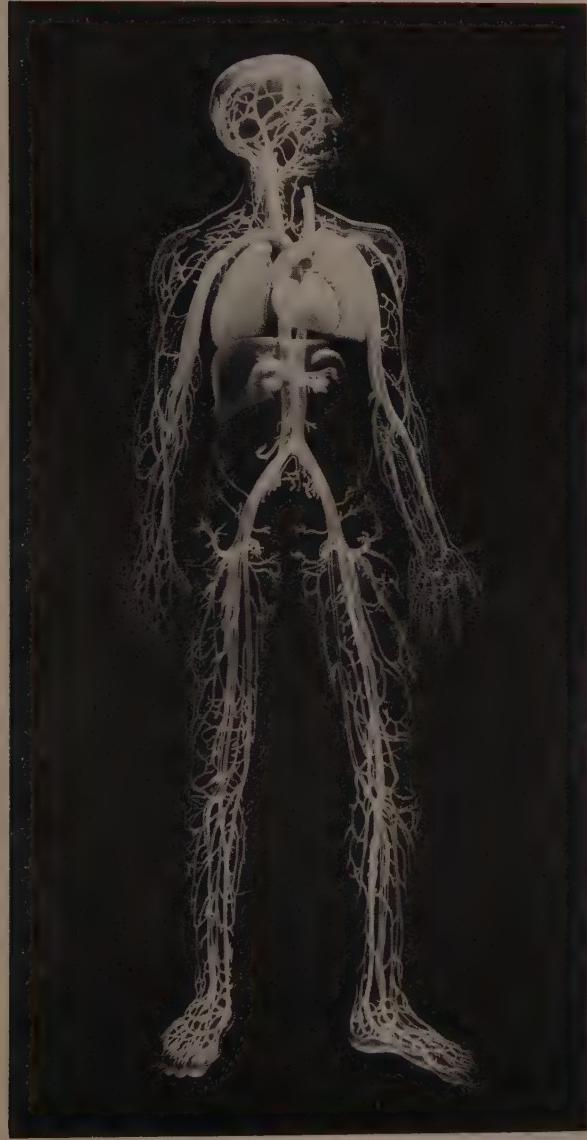
Some years ago, fifteen or sixteen as nearly as I can recall, I submitted to the Administration of the American Museum of Natural History a plan for a new series of halls intended to set forth general principles in anthropology. This represented a break from the usual geographic treatment which is standard in the American Museum of Natural History as well as in other ethnographic exhibits. It seemed to me then, as it does now, that useful as geographic or culture area exhibits may be for certain purposes, they do not begin to furnish our public with the insights into their own lives that anthropology is able to provide. For anthropology in all its branches has made tremendous strides since the days when the geographic concept was virtually the only feasible framework for museum exhibits. To put it briefly, because all this is merely introductory, the new scheme was to consist of five halls. The first, the introductory hall, was to be devoted to the organic or biological man. This was to be followed by a hall given over to the fundamental principles of behavior. The purpose of the third hall was to demonstrate behavior conditioned and regulated by society. The fourth and fifth were to deal respectively with the growth and development of civilization in its multifarious phases and the epic of America.

The first of these halls was officially opened on March 20 of this year. The decor, the casing and other architectural features were designed by Brooks Freeman. Against off-white walls the cantilevered aluminum cases, elegant but unobtrusive, serve to bring forward the exhibits themselves. Since the subject matter falls into three divisions, the hall is divided into three areas.

The introductory section is devoted to man's relationship to the world of the vertebrates and his evolution. The first display, on the left, as one enters, is concerned with man's systematic position. He is shown as a vertebrate, as a mammal, and as a primate. In each of the panels devoted to these topics, the morphological characters man shares with these various zoological groups are demonstrated by cutouts in lucite, that are in many instances routed and colored to bring out details of significance.

This display culminates in a separate exhibit which demonstrates man's classification as a hominid. In addition to the orientation of

Natural History



man in the vertebrate world, these systematic exhibits serve to bring forward the concept of evolution, since the classificatory system itself is a reflection of it.

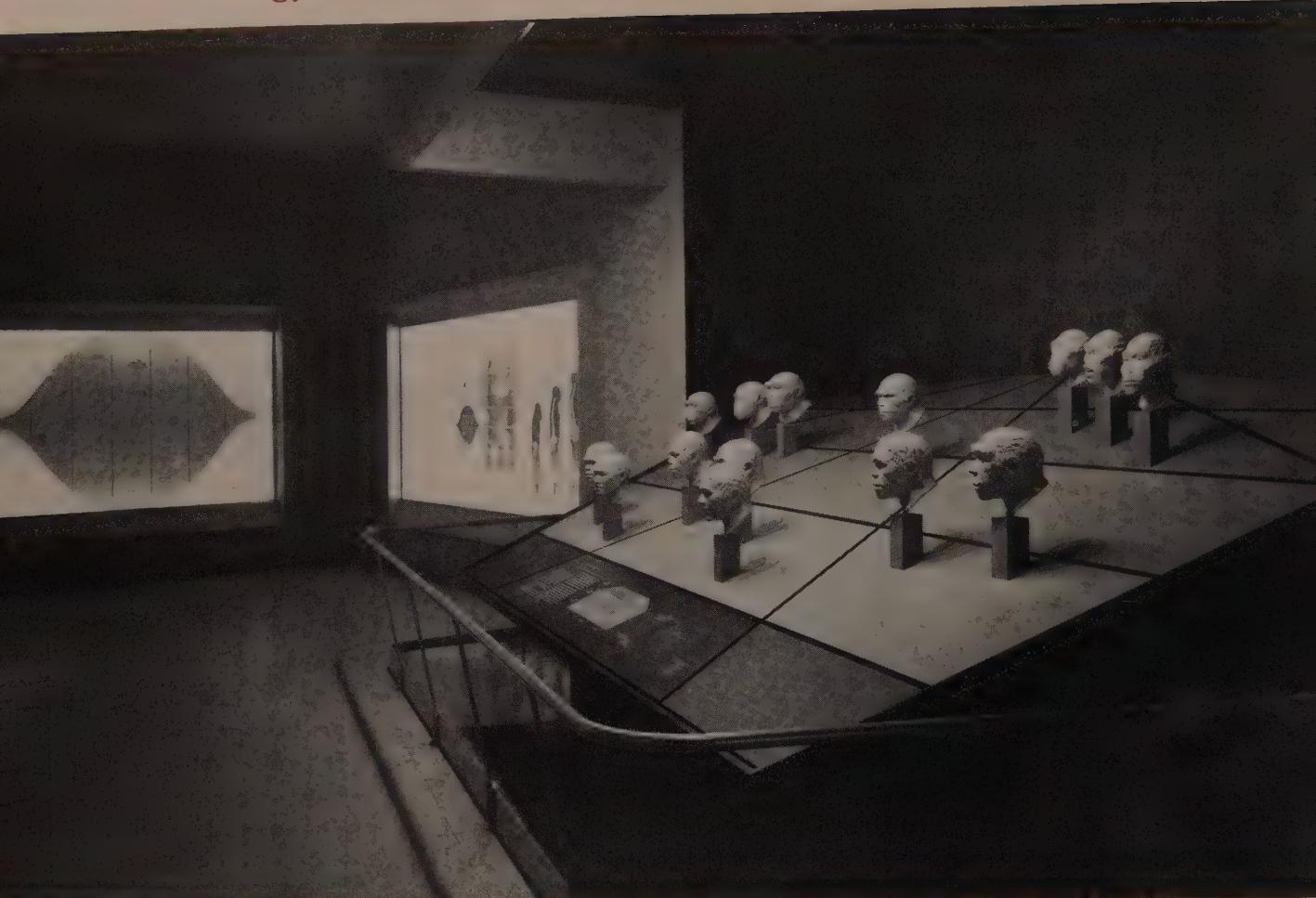
Evolution as such is represented on the remaining walls of this section. One featured exhibit is a ceramic mural depicting a spiral of time. The spiral emerges out of the beginning of the earth shown in the center. Marked off on the spiral are the appearance of organic life about two billion years ago and successively, as it swings in an increasing arc, the emergence of invertebrates, vertebrates, mammals, primates, and finally hominids—a mere one million years ago, about 1/2000th of the length of the spiral since life began. The colors used are keyed to the background colors of the various systematic panels.

Associated with this chronology are exhibits on the dynamics of human adaptations and the fossil evidence of human evolution. A novel feature here is the mounting of the various fossils chosen for their significance against the corresponding areas of the skeleton of recent man. The visitor, faced with unfamiliar fossil fragments, can now make comparisons that bring out essential differences or similarities.

One of the more dramatic arrangements, deliberately emphasized because of its situation, is a collection of reconstructed heads representing the most complete of the fossil skulls. Arranged geographically and chronologically on a broad sloping platform, they face the visitor as he enters the hall.

AT LEFT: A slightly less than life-size plastic model of the human circulatory system is shown here in full detail.

The Biology of Man



In the foreground are sculptured reconstructions of the heads of fourteen prehistoric men, forerunners of modern man.

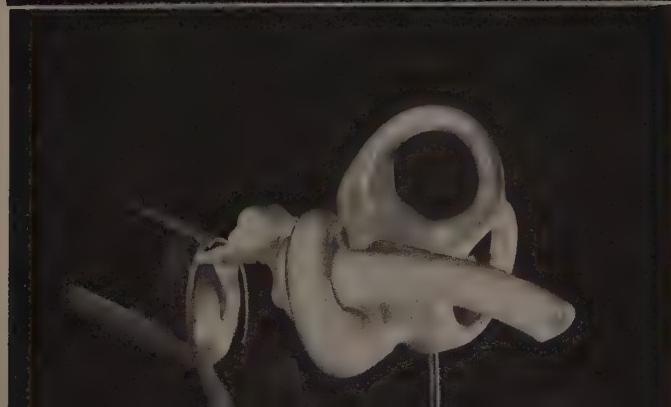
The earliest types—the Australopithecines of South Africa—appear to be emerging from a background mural depicting the world of the primates. These heads, fourteen in all, constitute, we believe, the largest assemblage of its kind and will be added to as new discoveries become available.

Having brought man up to *Homo sapiens*, the exhibits in the next section of the hall shift from a phylogenetic view to a functional analysis of the human organism. They begin with the cell which, as a structural and functional entity, is fundamental to an understanding of the economy of the body. This initial display is typical of the use of plastic material throughout the hall. The specifications called for an enlargement, about two and one-half to three feet in diameter, of a generalized cell, showing all the typical internal structure of such a unit.

We wished to create an illusion of the great depth that such an enlargement would suggest. The museum's technicians achieved a remarkably vivid presentation by nesting molded layers of plastic, each one separately routed. Edge lighting of the laminated structure causes the detail to emerge in depth with a three-dimensional quality.

The story of the cell proceeds through demonstrations of cell differentiation, cellular organization into tissues and finally cell function. The last is illustrated by two sequentially illuminated series to show progressive stages in secretion and phagocytosis. These preliminary exhibits on the cell lead the visitor to displays that show the two kinds of cell division—mitosis and meiosis. The latter, analyzed as spermatogenesis and oogenesis, carry the story on to reproduction, placentation, fetal development, and

TOP RIGHT: The mechanics of human locomotion are demonstrated by pelvic, leg, and foot bones and aluminum cutouts. **CENTER:** A schematic model of the human circulatory system made of cast sheet acrylic plastic. Through the use of lighting, the model appears to move simulating the flow of blood and the pumping action of the heart. **BELOW RIGHT:** Model of the inner ear, showing at left, the ear drum where vibrations of air set in motion three little bones in the middle ear. These in turn activate the fluid in the pretzel-like cochlea at right. From there, nerve endings transmit the messages to the brains.



The Biology of Man



A cut-away model of the eye, exposing the internal structure and the connection of the optic nerve with the rest of the eye. The translucent globe in the center is the lens.

birth. One of the dramatic high lights in this area is an animated display that traces the ovum as it erupts from the ovary, its fertilization, its passage down the fallopian tube into the uterus where it becomes embedded in the endometrium lining. Enlargements of the various stages of the developing structure are shown as the fertilized ovum moves along the tube.

The visitor, by this time, has reached the end of one side of this section and encounters the "transparent woman" set on a pedestal enclosing a maze of electrical wires and equipment. She stands in a semi-circular recess, backed by black glass panels. This well-known figure consists of a plastic sheath enclosing the skeleton, the vascular, nervous, and lymphatic systems, and the internal organs. The various organs light up sequentially as a taped voice explains their functions. As elsewhere, this lady attracts considerable attention, and although the information or analysis she provides is not commensurate with her appeal, she performs a useful function and is worth the space she occupies.

The rest of the wall space of this section is concerned with the various systems of the organism. In most of these exhibits our aim was to demonstrate the essential functions, rather than to mount anatomical models. Wherever it is appropriate, the anatomy and topography of the system are presented both by models and by real organs infiltrated with plastic. This technique preserves the specimen in its natural aspect, lends reality to the exhibit and permits its display in the most advantageous manner. But the focus of each of these systematic panels is function. Since the function is at a microscopic level, it becomes necessary to take the viewer to this level without losing him. This is achieved by progressive magnifications until we

reached the crucial point where filtration, gaseous exchange, neuro-muscular action or whatever may be shown. In one case, the process was reversed by beginning with the functioning element and building up step by step the total system. This was the method used for the renal function in excretion. The focal point here is a single nephron enlarged to about nine feet. The scale may be appreciated from the fact that a single kidney contains about one million nephrons.

In some of these systematic displays, animation is used to explain functions that might otherwise be difficult or complicated in static exhibits. Although animated demonstrations are always dramatic, they are troublesome to maintain and we decided to use them sparingly.

The final exhibit deals with growth and development. It is installed in a free-standing case and ranges over various aspects of physical growth, maturation, the determinants of growth, and the motor and social aspects of development. This case is situated so that it can be seen as a continuation of the story on the reproduction and the birth of a baby or, coming to it from the displays on the systems of the body, as another dimension of the human organism.

The third section of the hall, not yet completed, is reserved for the topic we have been calling *group biology*. Here we will exhibit the biological phenomena that arise from the interaction of individuals with each other and with their environments. Such topics as heredity, population genetics, racial as well as other systems of variation, and population dynamics will be treated.

One of the major problems that faced us at the outset was the determination of the level of sophistication we should anticipate. Obviously, a museum's public includes virtually all ages and all degrees of education. If we had settled on one level of age or knowledge, we would have run the risk of an exhibit that would have little appeal to other levels. This seemed undesirable and consequently we constantly kept in mind in our planning a highly varied public we wished to interest. We tried to achieve this by designing the exhibits on several levels. For professional biologists, anatomists, and others, we stressed the utmost fidelity to nature and incorporated aspects of the various subjects not readily available in other forms or places. For the untrained viewers, we sought to dissect the par-

ticular process in such a way that they might readily grasp the basic phenomenon even if they could not take in all its ramifications. This seems fair enough and, judging from those who have already been viewing the exhibit, it has succeeded.

The hall has now been open to the public for about a month and some observations on its reception and use are possible. Although the subject matter is not easy and requires some study to grasp in all its detail, we have been astonished by the attention that visitors have devoted to each exhibit. The pace is gratifyingly slow and visitors spend long periods of time intently examining each panel and carefully reading the labels.

The attendance for a new hall was expected to be relatively high, but our counts have exceeded all expectations. In fact, the weekend crowds have been so large that the capacity of the hall has been severely strained. Thus far our peak day clocked about 6500 visitors. It has also been encouraging

to observe the speed with which the colleges and high schools within reach of New York City began to use the resources of the hall. Large numbers of students frequent the hall with assignments and notebooks in hand.

One final observation may be of interest. I have deplored a tendency in many new exhibits toward a thinning out of the material presented. This initially was perhaps a good reaction to the old-fashioned clutter, but like many reactions it has gone too far. It has seemed to me that some density is desirable in a good design. To see visitors breeze through a hall as though the one visit were all it required suggests a kind of failure. A good exhibit, it strikes me, should provide the visitor with a richness of ideas and should leave with him a desire to return. In other words, it must have a lucidity of expression *and* a density of ideas. We have had this goal in mind, and I believe we have been reasonably successful in achieving our aim.

An artist at work on an exhibit—to quote the author, "A good exhibit should provide the visitor with a richness of ideas."





The author, Elizabeth B. Hellmann (right) introduces blind campers to cattails. "Many of the blind persons had constructed images of the plants in their 'mind's eye' . . . Upon actual contact with them they found them totally different from what they imagined . . . one lady said, 'This is a cattail? I've known about cattails, but I didn't think they looked like this.'"

ABOUT THE AUTHORS: Mr. and Mrs. Robert Hellmann, who were married in 1956, both received their B.S. from Cornell University. Robert Hellmann also has an M.S. in nature study from Cornell, and is currently a candidate for the Ed. D. degree at Teachers College of Columbia University. Formerly assistant professor in science at State University Teachers College, Brookport, New York, he joined the Museum of Natural History as museum instructor in 1956 and is at present Lecturer in Botany, Division of Adult Education.

Elizabeth Hellmann is currently a candidate for the M.A. degree at Teachers College of Columbia. She joined the Museum of Natural History as a research assistant to Dr. T. C. Schneirla, Curator of Animal Behavior, in 1956, became museum instructor in 1957, and since leaving the museum to raise a family in 1959, she has been a consultant in nature education.

Robert and Elizabeth Hellmann

A Nature Trail for the Blind

In 1957 the American Museum of Natural History, New York, carried out a nature education program with the Vacation Camp for the Blind at Spring Valley, New York. As a part of this program the authors undertook to develop a nature trail. The cooperating camp counsellors were experienced in working with the visually handicapped, but had no training in nature study. On the other hand, we of the museum had little experience in working with the blind, although the museum has had educational programs for the blind in the past. We had to provide the natural history background for the counsellors, who applied their skills to bring it to the blind.

It was our intention that the blind campers be exposed to natural history first hand, an experience ordinarily denied them. The fact that we could not use sight as a tool made us acutely aware that we use sight more than all other senses combined in finding our way about in the world. We soon learned that feeling bark and smelling berries became exciting experiences to people who had never been beyond the pavement of New York City, much less seen a tree or a sunset.

We had to locate a trail site which was accessible to the campers, and at the same time contained a varied assortment of plant life. The plants had to be such as could be identified by smell, taste or touch. We selected a site with a small lake on one side and a swamp on the other. The flora along this trail was interesting because it contained a variety of communities—marsh, swamp, and woodland. The path was cleared of all brush and overhanging branches which might have struck the campers' faces. Poison sumach and poison ivy were sprayed with a weed killer and three large trees lying across the path were removed. Even the tall grass which might have obstructed the campers was scythed. Finally, the desired plant specimens were selected and marked with numbered signs.

We made the temporary numbered signs from label frames from cabinet drawers, which we screwed onto the ends of 30 inch lengths of half-inch doweling at a 45-degree angle. The labels were white cards, $2\frac{1}{4}$ inches by $4\frac{1}{4}$ inches, with india ink numbers, and covered with thin transparent plastic to protect them from rain and dust. The cards were easily slipped into and out of the frames, enabling changes

The Blind

to be made during the season as necessity demanded.

A Nature Trail Interpretation Sheet was prepared for the counsellors. On this mimeographed sheet were given (1) both common and scientific names for each specimen, (2) a means of identification useful for the blind campers, and (3) information of general interest to aid the counsellor in interpreting the nature trail. Each plant item was given a number which corresponded to the numbered sign of the plant specimen along the trail. An example taken from the Nature Trail Interpretation Sheet follows:

WHITE ASH, *Fraxinus americana*, Identification: Bark is characterized by close interlacing ridges.

General Information: The wood of this tree is now used for baseball bats (including the famous "Louisville Slugger"), skis, and boats. In the old days of the West, it was used for making the rims of the wagon wheels that rolled across the prairies.

The use of the interpretation sheet in conjunction with the numbered signs was demonstrated to the camp counsellors by taking a small group of sightless campers along the trail. They felt the close interlacing ridges of the bark of the white ash and the prickly foliage of the red-cedar, and smelled the spicy odor of the crushed leaves and fruits of the spicebush. We recommended to the counsellors that small groups of no more than three or four campers be taken on the trail at one time for maximum individual attention.

The variety of plant life afforded by the "edge effect" made it possible for us to select plants which were familiar to the campers by name as well as plants which were new to them. Of the two, the "familiar" plants often elicited the most excited responses. Many of the blind persons had constructed images of the plants in their "mind's eyes" from bits of conversation, reading, and other vicarious sources. Upon actual contact with them on our trail, they found them totally different from what they had imagined. Typical of such responses was that of one lady who said, "This is a cattail? I've known about cattails a long time, but I didn't think they looked like this." (She was feeling the flowering heads with her fingers.) Further discussion regarding the lore and use of the cattail satisfied us that this was the plant she had known. The unfamiliar species produced less dramatic reactions, but interest nonetheless always remained high.

The removal of obstructions cannot be too greatly emphasized. Many of the campers walked with a shuffle, which made them prone to stumble. Individual attention was necessary to provide safe guidance along the trail. Where large trees had fallen across the trail a passage was cut through the trunks. We took advantage of this by directing the campers' attention to the cross-section of the tree, with its wood and bark. This experience helped to round out their perceptual knowledge of trees.

At the close of the season, the nature trail signs were removed. They had withstood the season's weathering satisfactorily, though the yellowed appearance of the cards indicated that replacements would have to be made the following season.

That the

Mr. John Witthoft, State Archaeologist (extreme right) explaining a sleigh to a group of blind persons in the State Museum at Harrisburg, Pennsylvania.

The Pennsylvania State Museum recently began a modest program intended to extend its services to the visually handicapped people of the Commonwealth. A traveling exhibit for the blind, which initiated the program, was followed by a visit to the State Museum by a local county blind association.

This limited experience with the traveling exhibit and the visit to the museum hardly qualifies us as authorities in this day of specialization. However, few museums have been active in this area; our experience may therefore be useful to others desiring to undertake similar work. Those of us who worked with the blind found that it was perhaps our most gratifying single experience in museum work. The blind were the most responsive group we have ever worked with.

All this resulted from a visit to the museum by W. Earl Quay, the blind Field Secretary for the Pennsylvania Association for the Blind, and Frank Menaker, a volunteer reader for the blind. They had suggested to Dr. S. K. Stevens, Executive Director of the Pennsylvania Historical and Museum Commission, the possibility of setting aside a portion of the present museum which would contain objects that the blind could handle. We decided against this more ambitious work for several reasons: space limitations, the pressure of other matters (completion of plans for a new building) and inexperience in working with the visually handicapped. Instead, it was agreed that the State Museum would build and outfit a traveling exhibit in time for the October (1960) Inter-Branch Conference of the Pennsylvania Association for the Blind in Pittsburgh.

After examining some of our collections Mr. Quay prepared a list of over fifty items which interested him and which he felt would be of interest to blind people in general. We excluded from this list the more valuable and breakable items, large pieces, and potentially dangerous ones—a Bowie knife, for example. The following twenty items were finally chosen: a three-thousand-year-old Indian spear-point; a fossil shark's tooth; a fossil brachiopod; a clay tablet; mineral pyrite and mineral magnetite; an 18th-century trade Indian axe; an Indian grinding stone; a cavalryman's spur; an early 17th-century Susquehannock clay pot; a late 19th-century pistol; a harpoon; a crockery colander; an early telegraph key; an iron mortar;

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and May "See"



Earl Quay holds colander from the exhibits for the blind.

early 17th-century European glass beads traded to the Indians; an old rolling pin; two Indian baskets, and a Japanese netsuke. Later a printing block and a powder flask were substituted for the baskets on the advice of Mr. Quay. Baskets are nearly alike in texture and most visually handicapped people have at one time made baskets as a means of therapy.

The artifacts were fitted into a plywood case thirty-one by forty inches, which is wedge-shaped and tapers from twelve to six inches. This design has the advantage of elevating those objects at the top. The lid was secured by metal fasteners and was not hinged so that it could be put aside when opened.

Specimens were held in place in slots by metal fasteners pivoted to one side to permit easy removal. Each slot is identified by a metal screen tag number which corresponds to a typewritten label. A soft fabric covers the interior of the case to minimize chance of breakage.

Since Braille labels would be bulky and only a small percentage of the blind read Braille, the

traveling exhibit should have someone in attendance who knows the objects. Earl Quay performed this function at the Pittsburgh meeting. In fact, he was so devoted to the exhibit that he later jokingly complained that he regretted that he had missed out on most of the sessions.

Reports on the effectiveness of the exhibit were most favorable; even bellhops, maids, and hotel guests became interested in the display. There were frequent exclamations of approval and surprise. The warm human response was particularly gratifying to the members of the staff. It made us feel we were doing something that was worthwhile.

The small two by two inch inscribed cuneiform clay tablet, perhaps a reproduction, attracted the most attention. Many had expected the tablet to be larger, not realizing that such tablets are found in a variety of shapes and sizes. No doubt this bit of information may have been news to others as well.

Objects with movable parts like the pistol, the powder flask with its measuring device, the telegraph key, and the cavalryman's spur, were very popular. The popularity of the latter surprised me. Everyone has heard about spurs, but most blind people have never handled them. Other popular objects were the Susquehannock Indian clay pot, the Japanese netsuke, and the trade axe. An interest in these objects is attributed to an appreciation of fine workmanship, the feel of the material, and the fact that these objects are not commonplace.

Interest in the fossil shark's tooth and the brachiopod was aroused by the information that the one was twenty-five million and the other 250 million years old. Mr. Quay told us that the texture of

That the Blind May "See"

the brachiopod was not significantly different from that of a piece of cement. The interest is due to their antiquity and to the forces of nature responsible for preservation. The significance of our objects is often concealed and not immediately recognizable by sight or touch.

Objects which received less attention were the iron mortar; the crockery colander; the printing block; the pyrite cube; the glass beads; the rolling pin; and the magnetite. Perhaps these objects were too common to arouse great interest.

Since its first use in Pittsburgh the traveling exhibit has seen service at the State Museum, in York, and in Williamsport. At the museum it was used during a tour when twenty blind persons from the Lycoming County Association for the Blind visited us.

The museum tour was organized in the following manner: we held a brief orientation talk and then subdivided into three groups. Each section of seven (in one instance six) individuals was assigned a curator who accompanied the group through three museum galleries. A staff member was located in each of these three areas to assist the curator in familiarizing the visitors with the objects. There was actually a museum employee for every three or four blind persons.

The galleries the group "saw" were the coach and carriage room; the rifle exhibits; the central gallery with tables of artifacts and later the antique cars. In the central gallery we supplemented the traveling exhibit with an oil lamp; the articulated bones of a horse's leg; a horse's hoof complete with horseshoe; an Iroquois Indian mask; a candle mold; a stone Indian axe, and other items. There were many favorable comments about the horse's leg and the hoof. Previously, some of the staff members had felt we were going a little too far by using these items, but it turned out they were well-received.

Every twenty-five minutes each group moved to a new area. The tour was scheduled to last an hour and fifteen minutes. As it turned out we were over-organized. One carload of visitors got lost and arrived late; some persons were so interested in certain objects they were handling that they did not move to the next area as planned; others simply asserted their independence and did as they pleased. We ran behind schedule, but when we finally reassembled in the central gallery, two hours later, one of the first questions was: "Do you have any

more?" The group was then guided to the exhibits of antique cars and to our one motorcycle, where they were permitted to sound horns, shift gears, climb in and out, steer, and in general examine details of the vehicles. One ex-engineer, who had suspected that his afternoon might be wasted and was skeptical of the whole tour, came out of it with grimy hands after having thoroughly examined motors, wheels, and grease fittings. Later he admitted that he had enjoyed himself. To once again become involved in an activity he had once been engaged in, seemed to give him much satisfaction.

On this day the museum came alive with sounds of excitement and delight. One woman, who had been deaf and blind all her life, told us that she couldn't remember when she had had so much fun.

Although Miss Scott had only attended first grade, the blind association had been able to teach her certain very simple and basic words. Communication with her was done with a "tele-a-touch" machine, a device with a typewriter-like keyboard. By depressing a letter key a certain combination of six pins is raised in the back of the machine which designates a specific letter. To use the machine the individual holds his finger at the area where the pins appear. He must have memorized the combinations that form each of the 26 letters of the alphabet, and the ten numbers. This laborious method of communicating requires patience and effort, on the part of the operator of the machine and the handicapped person. It also requires ingenuity when the handicapped person's vocabulary is limited. In one instance we had to substitute Redman for Indian. Working together with a regular worker for the blind we were eventually able to get every object identified to Miss Scott's and our satisfaction. There were difficulties with dates but we managed to convey to Miss Scott that a fossil shark's tooth is twenty-five million years old. Once accustomed to thinking in terms of millions of years, it was hard to get across the idea that a certain carriage was only a hundred years old.

In closing I should like to suggest that no museum should feel hesitant about working with the visually handicapped. Our visitors did not expect to be given overly solicitous treatment, and they were extremely grateful for the opportunity of handling objects which had been beyond their realm of experience. Needless to say, the staff members derived a great deal of satisfaction from the visit.

AT RIGHT: Several blind visitors being shown a nineteenth-century carriage in the Pennsylvania State Museum.



ABOVE: Examining artifacts in the central gallery. Ruth Friedel is holding a horse's hoof.



AT RIGHT: A blind person is being helped into the Tally Ho.



Erwin O. Christensen

A Generation

The number of museums in the United States and Canada has more than doubled since 1932. We found this out through a major survey that turned up a mass of information. A comprehensive and detailed questionnaire was sent to some 4,500 institutions. On the basis of the questionnaire The American Association of Museums has published (March 1961) a *Museums Directory of the United States and Canada*. Furthermore, additional information contained in the returns to the questionnaire, more than could be used for the Directory, will serve as a foundation for a *Museum Resources and Information Service*.

Before we report on museums as revealed by the survey, a few words on the *Museum Resources and Information Service* may be advisable. At present such a service exists, but more in name than in fact. It is supported by a skeleton staff, by much newly acquired information, as well as by quantities of unpacked catalogues and pamphlets, the beginnings of a library, waiting to be catalogued. If the museum movement is to advance and take its place with comparable cultural professions, the collection and distribution of information is a basic necessity.

It should not be surprising that a professional organization which has been serving museums for over half a century should be cramped for space. Larger quarters have now been acquired to conduct the work of the Association. This will include the publication of books, also the preparation of studies, reports, and news releases. This service will stimulate, and also initiate and sponsor, research for the benefit of the museum profession. It will assist new museums and exchange and correlate information. It includes also long-range plans such as the just-published *Museums Directory*.

A Directory was necessary, as there is no recent source of information on all museums. The last "Handbook of American Museums," is now a generation old ("Handbook of American Museums," with an appended list of museums in Canada and Newfoundland, compiled by Lewis Harrington and edited by L. C. Everard, preface by Laurence Vail Coleman, Director, The American Association of Museums, Washington, D.C., 1932). This "Handbook" served as an invaluable guidepost by which to chart the progress made during the

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Museum Growth

last 28 years. To keep to a single volume the *Museums Directory* had to concentrate on basic facts. Information on finances, attendance and other data, recorded in the replies to the 123 questions contained in the questionnaire was assigned to the *Museum Resources and Information Service*.

In 1932 a sharp increase in the number of museums had been noted, as compared to those listed in earlier "handbooks" (Paul Marshall Rea, *Directory of American Museums*, Buffalo Society of Natural Sciences, 1910). New museums were then being established at a rate of "one each fortnight." This trend has continued and accelerated. In 1932 there were over 11 museums for every million of population in a total population for the United States and Canada of perhaps 134 million. Today there are more than 21 museums for every million of population in a total of perhaps 194 million (U.S. and Canada). The rate of growth during the past 28 years was about one museum every four days!

Every kind of museum is included, as in the 1932 Handbook: Historic Houses, Historical Society Museums, as well as Historical Societies, Botanical and Zoological Gardens, Arboretums, Park Museums with Orientation Centers, Planetariums, Aquariums as well as Art, Natural History, and Scientific museums, and many others.

A few first impressions that came out of this survey may be noted here. These facts stand out clearly: (1) an all-over growth in virtually all states and provinces (2) an increased emphasis on education and research (3) a breadth of interest reflected in many kinds of museums.

Generally speaking, states and provinces that were leading in 1932 in number of museums have

maintained their lead in 1961 (see Graph 1). It could have been predicted that in populous New York, Massachusetts, Ontario and Quebec the museums would outnumber those in many western states and some provinces. One would also have expected substantial growth in Florida, Texas, and British Columbia, but the figures are surprisingly high. Today Florida and British Columbia have about nine times as many museums as in 1932; Ontario has about eight times as many; Texas about five times, North Carolina four times, and New Hampshire three times. Others doubled and tripled in number of museums (see Graph 1), particularly Minnesota, California, Pennsylvania, Ohio and Arkansas.

Perhaps a more representative picture results if we arrange the states by number of museums per 100,000 population. This places all states, large or small, on an equal basis. The first ten states fall in this order (the numbers in parenthesis are museums per 100,000 population): New Hampshire (8.23); Vermont (7.95); District of Columbia (7.46); Wyoming (6.97); Rhode Island (6.86); Massachusetts (6.53); Maine (6.40); Connecticut (5.44); Montana (4.15); Nebraska (3.76). For comparison, on this same basis, Wyoming has almost seven museums, California, with over forty times the population of Wyoming, has fewer than two (1.3) museums per 100,000.

It may be instructive to combine states into eight geographical groups: New England, Middle Atlantic, Great Lakes, Plains, Southeast, Southwest, Rocky Mountains, and Pacific Coast. If each group had the same number of states, namely six (48 states in 1932) we could count the number of museums in each group of states. The group of

A Generation of Museum Growth

states with the most museums would be at the top of our regional list, the others would assume their places. Actually these groups are unequal; the Pacific Coast has only three states, but the Southeast has twelve. Addition of museums by regions would give a false impression of growth in regions having many states but few museums in each, compared to a region of fewer states but many museums in each state.

We arrive at a truer picture of regional growth by using a figure representing the average *rank order* of the several states comprising the region. New York State, having the largest number of museums, would be in first place (Graph 1); Massachusetts, with the second largest number of museums, would be in second place, and so on down the list. (These numbers from 1 to 48 we call the *rank order* of states, as shown in Graph 1). By adding for each regional group of states the numbers indicating the rank orders of each state, and by dividing by the number of states in the group, we get the average rank order for the group.

This results in the following order denoting museum growth for the group: (1) Great Lakes, (2) New England, (3) Middle Atlantic, (4) Pacific Coast, (5) Plains, (6) Southwest, (7) Southeast, (8) Rocky Mountains. The Middle Atlantic States yield first place to the Great Lake states because the New York area also includes one low-ranking state, Delaware (46 in *rank order*) and one middle ranking state, Maryland (25). By comparison, the Great Lake states rank high, between fifth place for Ohio and nineteenth for Indiana (see Graph 1); the Pacific Coast benefits from California's fourth place.

Canada, since 1932, appears to have increased its museums more than the United States (see Graph 1) when we compare the 1932 with the 1960 total growth for each country on a percentage basis. Canada has today around 270 museums and in 1932 had 72. The United States in 1932 had nearly 1500; today it has over 3,900 museums. The rate of increase for Canada was 275 per cent, for the United States 160 per cent. Though the basic records of 1932 and 1960 may not be strictly comparable, the large increases indicate a trend. (The 1932 Handbook suggests for the United States a total of some 1400 museums; we used a figure of 1500, gained by adding state totals.)

If we may apply the rates of increase since 1932 to individual states, we find that the state of Wash-

ington with a population under three million has a rate of museum increase of almost 300 per cent; Massachusetts with a population of over five million has a rate of increase since 1932 of 58 per cent. Other populous states, larger than Massachusetts, but having fewer museums per 100,000 population, have grown faster than Massachusetts, particularly Texas, Ohio, California, Pennsylvania (see Graph 1).

Statistics are quantitative measures; they do not consider quality, nor differentiate between large and small museums. At best, statistics indicate areas of activity and should be useful to locate fields where further research might be undertaken. Superior museums may be in any state regardless of how many museums that state may have. Whether quality is more likely to develop where many museums are in competition, or in regions where each develops in comparative isolation, remains to be seen. To throw light on such problems could be one of the objectives of the *Museums Resources and Information Service*.

Statistics covering the whole field need to be supplemented by others applied to subdivisions. American museums have been justly acclaimed for stressing education. Information as to educational work from ten representative states and Canada was compared with the similar reports of these same regions in 1932. The amount of educational work in the museums of those states and Canada closely follows the total number of museums for the same states. Educational work performed in the museums was in about the *rank order* of the museums as recorded. Educational work includes many activities; tours and lectures, as well as classes and research projects. The totals reflect various educational activities widely distributed.

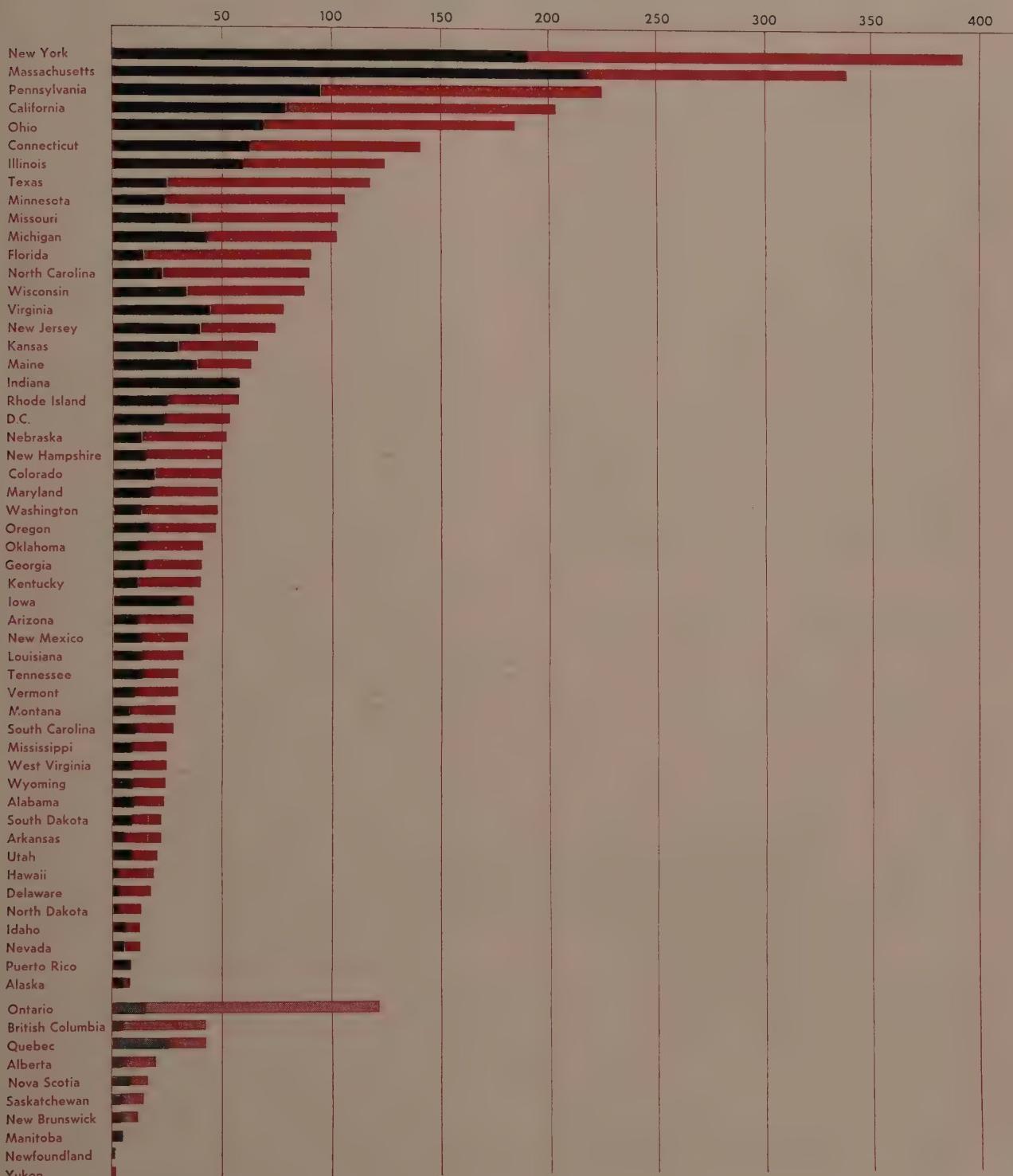
By comparing the growth of museums between 1932 and 1960 with the growth of educational work, we note that such work has been growing faster than museums (Graph 2). It has been introduced in museums in which it was either absent in 1932 (North Carolina) or existed in only a few museums (Texas, Florida, Washington, Nebraska, New Hampshire, Montana). The number of museums doing educational work has doubled in the 28 years between 1960 and 1932. This is a healthy sign and deserves attention.

In recording the data from the questionnaires, it was noted that Historical Societies, Historic

GROWTH, MUSEUMS IN THE UNITED STATES AND CANADA

Black bar indicates number of museums in 1932

Color bar indicates increase in number of museums between 1932 and 1960



A Generation of Museum Growth

Houses and Historical Society Museums also reported educational work. No doubt this consists largely of tours and lectures; it probably has not been developed to the same extent as is the case in Art and Science museums and still less than in College museums and Plantariums. But it is noteworthy that educational work is also carried on in this group.

How do different kinds of museums compare today as to which kinds predominate? To arrive at an impression how museums compare, museums of the same or closely related kinds were grouped together. The results show that History museums lead; they are followed by Art, College or University museums, Botanical Gardens and others. The Botanical Gardens group includes Zoos, Arboreta, Aquariums, Aviaries, and Animal Farms. In the Historical group are not only History Museums, but also Historical Society Museums, Historic Houses and Historical Societies, making this group very large.

What has been the trend during the last two decades as to kinds of museums founded since 1940? In the same ten states we investigated as to educational work, the Historical group leads, followed by Art and Science museums in second and third places. The next were Children's museums and combined Art and Science museums.

Natural History, an important group, has received less support since 1940. There have been no new Natural History museums in these ten states since 1940, except in California where three were founded. In this sampling of representative states, 17 different types of museums were recorded. For kinds of museums not mentioned the number for each kind varied between one and three. As stated above, the recent trend has been toward History (85), Art (34) and Science (29). Such a concentration suggests that the sampling of ten states is probably sufficient to reflect more than a phenomenon peculiar to these states.

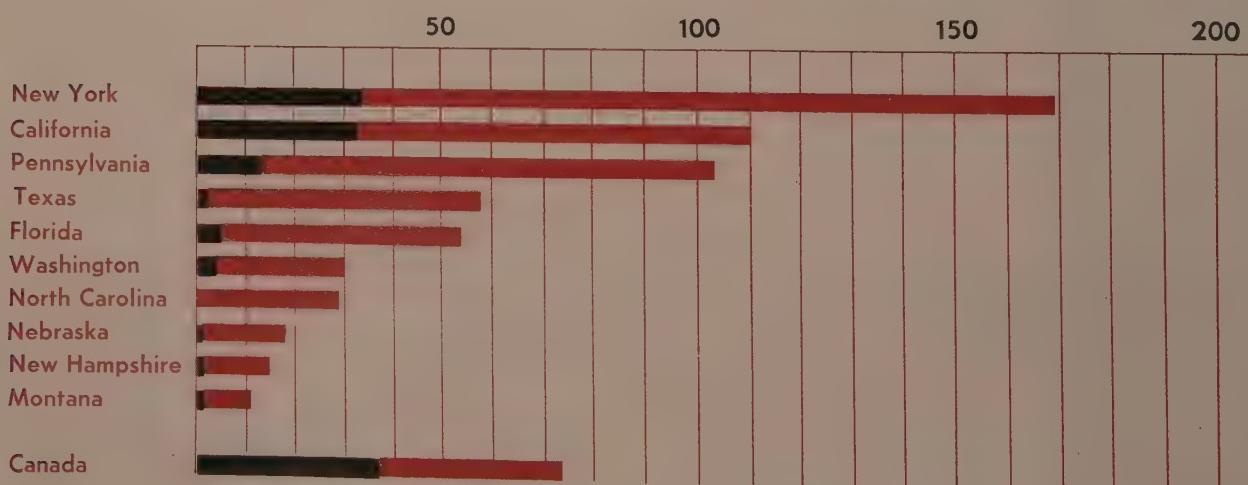
Another comparable trend, based on the returns from the questionnaire, is a noticeable increase in the number of all types of museums founded since 1932. In three of the ten states studied, Florida, North Carolina and Montana, one fourth or more of the museums were founded since 1940; in Washington more than one fifth. The largest growth occurred in the decade after 1932, dropping off somewhat since 1940. For all states, including the four mentioned above, the greatest growth came after 1932 and before 1940. Those were the depression years when the government was active in state projects, which included building.

Government support may have played a part, as may increased leisure. Participation in govern-

EDUCATIONAL WORK IN MUSEUMS, UNITED STATES AND CANADA

Black bar indicates educational work introduced in museums by 1932.

Color bar indicates increase in educational work introduced in museums between 1932 and 1960



ment-supported projects in the thirties probably stimulated activity in these areas, as non-participation may have had a retarding effect. Up to 1932 Indiana was about as advanced in number of museums as Illinois, and Ohio, and ahead of Michigan and Wisconsin, but Indiana has not increased in number of museums since then (see Graph 1). Indiana was among those states, about a dozen, that did not have WPA projects in connection with the Index of American Design.

Some of the states in that group, Montana, South Dakota, Oklahoma, Idaho have become active in research work since the thirties, in Science and Natural History museums, including archaeology and anthropology. California with sixteen leads by a comfortable margin for research. New York may be at the same level, though our figures do not show this, as we had no returns from Columbia University's scientific museums to parallel those of the University of California. Massachusetts, Michigan and Arizona follow, all in the same bracket (8 to 9). Slightly below are Illinois, Colorado, New Mexico, District of Columbia, and Pennsylvania (5 to 6).

Organized research, at times with university cooperation, is carried on in Science museums; educational work for the public (lectures, classroom and studio work) has been stressed in Art museums. Nevertheless, neither Art nor Science museums are devoted only to the specialist or to the layman. Science museums also have their collecting trips for young people and for adults, and Art museums have conservation departments using scientific methods of restoration. Staff members in both art and science do research on objects in their own collections and also, as part of their routine work, serve members of the public in an advisory capacity.

The *Museums Directory*, aided by a detailed Subject Index, lends itself to obtaining information in certain broad areas. It includes museums offering services in education and research, through rental collections, musical programs, TV, radio and other cultural activities. Such a collection of facts suffers from the limitations of the questionnaire method. Individual judgment enters in, and perfect standardization in the description of contents or subject matter is probably unobtainable. A single term, except in a broad sense, does not necessarily mean the same thing to all readers of questionnaires. This may be due to the way a question was worded in the questionnaire, opening the way

for different interpretations. A margin of error is inherent in the questionnaire method.

From a rough estimate of the number of Museum Directory Index listings under Governing Authority, a few interesting results are indicated. There are perhaps twice as many privately controlled museums as governmentally controlled. Private corporations and societies are in charge of most of the privately governed museums. In this private group, museums under College, Foundation, School, or Church control, are only a small minority. In the government controlled section, the governing authorities are City, Federal Government, State, and County in that order. About twice as many museums of this group are City governed as are under Federal or State control.

A small but fascinating part of this survey had to do with the persons who pursue their hobbies as collectors; their enthusiasm in sharing their collections with others was one of the rewarding compensations for much of the drudgery connected with the editing of a Directory. It was usually some person connected with a small museum who was eager to volunteer additional information on the extra sheets appended to each questionnaire. If the spirit of devotion to public service revealed by these reports reflects the attitude of all museum workers, then museums indeed attract individuals who are dedicated to their work.





One-hundred-pound Parrott rifled gun.

Alan E. Kent and Horace J. Sheely, Jr.

Museum in a Gun

At 4:30 on the morning of April 12, 1861, a signal shot burst over Fort Sumter in old Charleston harbor. Thus began the Civil War—America's most momentous conflict.

IN mid-summer 1957 the National Park Service's museum planners started a new museum for Fort Sumter. The job was completed and the museum ready for formal dedication on April 12, 1961.

Museums are rarely ends in themselves; those in the National Park System never are. In America's national parks and monuments the site itself is the outstanding attraction; the museum supports the site and serves to interpret, to highlight, to dramatize, and to fill in the gaps with information which the place itself cannot directly convey.

The plan for the museum called for an excavation program to uncover and stabilize existing ruins. The second phase, with which this article is primarily concerned, was for an on-site museum.

To plan the museum building and the interpretive exhibits, the National Park Service dispatched a team of specialists from Washington and Philadelphia to work directly with the Park staff. Superintendent William W. Luckett and Park Historian Horace J. Sheely, Jr., prepared a prospectus on the Civil War story to be presented.

Sumter occupies a man-made island in the center of Charleston harbor. Although the initial bombardment had caused only moderate damage to the fort walls, by 1865 huge Federal siege guns reduced them to a shapeless rubble mass. In the post-war years repairs were made and heavy gun platforms were raised behind the reconstructed walls. Years of inactivity and neglect followed until the Spanish-American War prompted the construction of a massive two-gun, concrete battery, Battery Huger, which bisected the pentagon shape of the original fort. Its two huge coastal gun emplacements with their maze of operational rooms on the lower level dominated the area. Sand fill, brought in to protect the battery, further obscured Sumter's original shape by almost completely burying the Civil War ruins.

The planners decided to use the platforms and walls to house all museum and administrative activities. All new construction was concentrated with the least possible intrusion on the excavated remains

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Horace J. Sheely, Jr., is a Research Historian with the staff planning the Museum of Westward Expansion, to be built by the National Park Service in St. Louis. A native of South Carolina, he received the B.A. degree from the University of South Carolina in 1947 and is a doctoral candidate at the University of North Carolina. He has served as an Instructor at the Virginia Military Institute and as Research Associate with Colonial Williamsburg. In 1955 Mr. Sheely joined the National Park Service as Park Historian at Fort Sumter National Monument, Charleston.

placement

of the original fort. A spacious museum was thus provided.

Translation of narrative history into museum exhibits was the first step in the planning process. Alan E. Kent and Daniel D. Feaser, the History Exhibits Planning Team, were responsible for this phase of the work. A preliminary exhibit plan recast the historical narrative into a series of museum exhibits. This exhibit plan laid the basis for the architectural phase by indicating museum space needs.

At this point Architect Donald F. Benson of the design office joined the planning group. The large area on the fort's second level, where a huge disappearing gun had been located, was selected as the most suitable spot for the museum. This was a section enclosed by irregularly shaped protective walls on three sides; there was no roof. The central feature was the deep pit emplacement protected at the front by a semi-circular wall of step-like ledges. An imaginative approach to design turned liabilities into assets.

The architect modified the emplacement pit to provide an attractive setting for several central exhibits. Two definite levels were retained. Combining irregularity of the area with the two-level adaptation, the architect created an easy and clear circulation pattern. A large window near the entrance provided the visitor a dramatic view of the ruins of the left flank of the fort from inside the museum. An imaginative architectural design turned an intrusive gun emplacement into a distinctive museum room.

Fifteen exhibits prepared in the Park Service's Eastern Museum Laboratory in Washington tell

the story of Fort Sumter. A construction exhibit represents the building of the island foundation and fort itself. Over 7,000,000 Carolina grey bricks, made locally, were used. Marble from a mantelpiece in the officers' quarters, a brass candlestick found in the fort, and a hand pump that drew rain water from underground cisterns help visitors understand something of the military life on Fort Sumter a hundred years ago.

A scale model shows the fort as it looked in 1861. By showing guns dug into the parade ground, the model demonstrates that the fort was unfinished at the time of the bombardment, April 12-13, 1861, with only a few of the cannon mounted.

A scale diorama depicts the opening shot of the Civil War. Dioramists captured, in miniature, one of the decisive moments in American history: the bursting of the signal shot above Fort Sumter, as seen by the mortar battery crew which fired it from nearby Fort Johnson. An observer summed up the importance of the event: "The firing of the mortar woke the echoes from every nook and corner of the harbor . . . It was felt the Rubicon was passed . . ." The Service hopes to obtain a 10-inch mortar of the type that fired the first shot to stand where the scale model is now, providing the final dramatic impact of the Fort Sumter story.

The exhibits include examples of the shot and shell which by 1865 had thoroughly battered down Fort Sumter. In addition, hand grenades, bottles, pipes, axes and fused glass actually found in the fort help tell portions of its combat history.

While the planning team was at work, a story in the *Charleston Evening Post* called attention to

Museum in a Gun Emplacement

the proposed museum and its need of more specimens. As a result several interesting items were acquired. A stone fragment was donated by Anthony A. Cuzzell, III, one of Charleston's youngest history enthusiasts. The boy, about 10 or 11 at the time, responded to the newspaper's call for specimens. The specialists were somewhat skeptical about what Tony had discovered, but were elated to find the item of genuine interest. It was, in effect, a documentary stone bearing the fragmentary inscription:

"Killed at Fort Sum...
October 31st, 1863"

The stone fragment found in the town related to the many Confederate defenders killed in the great bombardment of October-November 1863. Miss Alicia Rhett, a granddaughter of one of the fort's commanders, Colonel Alfred Rhett, presented an oil portrait of the Confederate officer, her own work.

General P. G. T. Beauregard is featured in an exhibit as the first hero of the Confederacy. A sword presented to him to honor his defense of Fort Sumter, on loan by the Charleston City Council, gives a dramatic highlight to the Beauregard exhibit.

The Charleston Library Society contributed a U.S. ordnance manual which, having just come off the press, had been used by Charlestonians in pre-

paring their artillery positions for the bombardment which began the war.

With these specimens, the planning team was able to prepare exhibits which suggest the ordeal of combat experienced first by the Federal and then the Confederate soldiers who defended the fort during its terrific bombardments. By the end of the war, 3,500 tons of metal had been hurled at Fort Sumter to reduce it to a ruin.

The most treasured specimen in the museum is the 33-star garrison flag (18 feet by 24 feet) which flew over Sumter during the bombardment of April 12-13, 1861. It was lowered and carried away by the Federal garrison in surrender, but was raised again on April 14, 1865, after Union forces had re-occupied Fort Sumter. The flag, tattered and torn, suggests the devotion to country with which Major Robert Anderson defended it, and more forcefully, the hope for a restoration of national unity with which Major Anderson raised it over the ruined Sumter on April 14, 1865.

Extensive excavations undertaken in 1959 uncovered all of the significant standing ruins of the original fort. In line with Park Service philosophy that the site itself is the most meaningful exhibit, a guided tour of the ruins was developed by the Park staff. Several in-place exhibits at important points in the newly-opened ruins have been developed. Excavations uncovered eleven of the original casemates on the channel face of the fort. Still mounted in these gunrooms were eleven one-hundred-pounder Parrott rifled guns placed there during the post-war

The concrete Battery Huger, before museum development.



Hundred-pound Parrott guns uncovered by excavations.



reconstruction. Visitors can walk through these casemates and examine the guns closely.

About one-half of the original parade ground was excavated on the west side of Battery Huger. The visitor follows the tour route through the original lower-tier casemates of the fort's left flank where two 42-pounder cannon are mounted on reconstructed wooden carriages such as were used in 1861. Ruins of one of the two enlisted men's barracks and more sizeable ruins of the officers' quarters also can be seen on this side. A small-arms magazine was excavated to reveal its story of the explosion and fire of December, 1863, that killed eleven Confederates and wounded forty-one. This was one of the major disasters suffered by the Southern defenders.

The almost complete destruction of the left face tells much about the massive Federal bombardments. From nearby Morris Island the newly developed rifled cannon battered the walls, and heavy mortars bombarded the fort for nearly two years. The pattern of destructive fire is readily indicated by the ruins of the fort's left face. Three heavy rifle projectiles are still deeply embedded in the scarp wall.

The National Park Service is approaching the half-way point in its *Mission 66* program. Under this project, the Service hopes to develop, for public benefit, the more than 180 areas of the National Park System. Included are some twenty-eight Civil War battlegrounds, on which improvements are being made to coincide with the Civil War Centennial.

Split levels in new museum permit easy circulation pattern.



In addition to improving facilities at Fort Sumter, the National Park Service's Eastern Museum Laboratory had provided new museum exhibits for Richmond National Battlefield Park, and Petersburg National Military Park. New or improved interpretive facilities are also planned for Fredericksburg, Manassas, Antietam, Gettysburg, Stones River, Fort Donelson, and other Civil War sites.

At the museum in Fredericksburg the Service exhibits a rare Beardslee Magneto Telegraph. Field telegraphy saw extensive service for the first time in the Fredericksburg operations in 1862.

At the Visitor Center of Richmond National Battlefield Park, travelers see a diorama showing Confederate artillery on Drewry's Bluff repulsing a Federal fleet on the James River as it prepared to assault the Confederate capital in May, 1862. Prized specimens include a valve from the balloon of Professor T. S. C. Lowe found at the Union aerial station near Richmond, and a lance point used by a member of the renowned cavalry unit, Rush's Lancers. At Fort Donelson, visitors will see an observation port cover from the pilothouse of the ironclad *Cairo*, recovered 97 years after the boat was sunk by a Confederate mine.

Through these museums, combined with on-site interpretations, the National Park Service hopes to present the history and significance of the Civil War on the actual battlefields.

The new museum in a gun emplacement on Fort Sumter is only the most recent example of the Service's wedding of site to museum interpretation.

Scale diorama on lower level depicts opening of Civil War.



Listings are limited by space to exhibitions of national interest. All material must be received six weeks before publication date and must include opening and closing dates and title of each exhibition.

CANADIAN

Montreal, Que., Museum of Fine Arts: "Canadian Ceramics 1961," May 26-June 26; "Flower Painting," May 31-June 25; "Young Painters from Quebec," opened June 6; "Doctors and Art," June 7-July 4.

Ottawa, Ont., National Gallery of Canada: "Fourth Biennial of Canadian Art," May 10-Sept. 3.

St. Catherines, Ont., Rodman Hall Art Center: "Style and Security," May 24-June 19, AFA Traveling Exhibition.

Toronto, Ont., Art Gallery: "Sculptors' Society of Canada," "Garden Sculpture," both May 18-June 18.

Toronto, Ont., Royal Ontario Museum: "Art-in-Jewels by Dali," May 13-June 7.

WESTERN

Berkeley, Calif., University of California, Robert H. Lowie Museum: "The Incas and Their Predecessors: Style and Civilization in Ancient Peru," through Oct.

Colorado Springs, Colo., Fine Arts Center: "Contemporary Prints from France, II," June 1-30; "Everett Spruce Retrospective Exhibition," May 21-June 11, AFA Traveling Exhibition.

Flagstaff, Ariz., Museum of Northern Arizona: "The Outlaw River," May 29-June 18.

La Jolla, Calif., Art Center: "Andrew Dasburg Retrospective Exhibition," June 11-July 2, AFA Traveling Exhibition; "Southern California Drawing Exhibition," May 11-June 4; "Felicia Kaner-Gouaches," May 17-June 18.

Long Beach, Calif., Museum of Art: "Paintings by Frederick Wight," "Ceramics by Robert W. Ramsey," both June 4-25.

Los Angeles, Calif., County Museum: "The Precisionist View in American Art," May 17-June 18; "Prints by Mauricio Lasansky," May

CURRENT EXHIBITIONS

Color Indicates Permanent Installations

24-June 11; "American Industry in the 19th Century," May 16-July 31, Smithsonian Traveling Exhibition.

Los Angeles, Calif., County Museum: Opal Exhibit. Selected from the Leon A. Salinger Collection, recently given to the Museum by bequest; new installation. Columbus Monkey Group. Three animals collected on an expedition in Northern Aberdare Mountains, Kenya, and British East Africa; new installation.

Los Angeles, Calif., Department of Municipal Art: "Women Painters of the West," May 23-June 18; "The Image Retained," May 30-June 25.

Los Angeles, Calif., Museum of Science and Industry: "Industrial Arts," June 1-25; "Design West," June 6-18.

Maryhill, Wash., Museum: "Directoire-Empire Textiles," through June, Scalamandré Traveling Exhibition.

Pasadena, Calif., Art Museum: "German Expressionism," through June 4; "Paintings by Ed Kienholz," May 17-June 21.

Phoenix, Ariz., Art Museum: "Indian Art of the U.S." June 1-July 31, AFA Traveling Exhibition; "Arizona Invitational," "Art Directors" Exhibition," both June 1-July 31.

Roswell, N.M., Museum and Art Center: "The Peter Hurd Collection," "Witter Bynner Collection of Chinese Scrolls and Jades," "Robert H. Goddard Memorial Rocket and Space Collection," "Bob Crosby Western Exhibit," all June 1-Aug. 31.

Sacramento, Calif., E. B. Crocker Art Gallery: "36th Kingsley Art Club Annual," May 17-June 25; "Drawings of the Masters," June 1-Sept. 30.

San Diego, Calif., Fine Arts Gallery: "America, A View from the East," May 30-June 27, Smithsonian Traveling Exhibition.

San Francisco, Calif., California Academy of Sciences: "The Begin-

nings of Flight," May 21-June 15, Smithsonian Traveling Exhibition; "Hawaiian Birds," May 15-June 15. Morrison Planetarium: "Do It Yourself Astronomy," May 16-July.

San Francisco, Calif., M. H. De Young Memorial Museum: "Watercolors by Eric Oback," opened May 11; "German Expressionist Paintings," opened May 27.

San Francisco, Calif., Museum of Art: "Pier Luigi Nervi—Space and Structural Integrity," May 12-June 18; "Contemporary Prints from Holland," May 4-June 11; "Selections of the Society for the Encouragement of Contemporary Art," May 18-June 4; "Children's Art from the Museum's Saturday Classes," May 15-June 4; "Sara Roby Foundation Collection," through June 4.

San Francisco, Calif., Palace of the Legion of Honor: "Art Collection of Mrs. Ailsa Mellon Bruce," June 17-June 30; "Retrospective Exhibition of the Work of Hans Burkhardt," June 10-July 9; "Paintings by Peter Shoemaker," June 17-July 16.

San José, Calif., Rosicrucian Art Gallery: "Japanese Paintings by Shuhō Kawashima," May 30-June 15.

Santa Ana, Calif., Charles W. Bowers Memorial Museum: "Sicilian Terra Cotta," "Old Carpenter's Tools," both June 3-30.

Santa Barbara, Calif., Museum of Art: "Paintings by Robert C. Cartt," "Sculpture by Robert Cremeen," both May 9-June 4; "Japanese Design Today," May 13-June 11; "Japan: Design Today," through June 15, Smithsonian Traveling Exhibition.

Santa Fe, N.M., Art Museum: "Eugene Berman Oils and Water Colors," April 16-June 12; "Highlands University Faculty Exhibition," May 11-July 5.

Santa Fe, N.M., Museum of New Mexico: "Contemporary Greek Paint-

ing," May 15-July 30, Smithsonian Traveling Exhibition.

Seattle, Wash., Art Museum: "Eighteenth Century European Porcelain," "21st Annual Exhibition of Watercolors," "Northwest Sculpture," all through June 4; "12th Annual Exhibition of Advertising and Editorial Art," June 2-28.

Seattle, Wash., Charles and Emma Frye Art Museum: "The Engravings of Pieter Breughel, the Elder," "Sculpture," all May 16-June 4.

Seattle, Wash., Museum of History and Industry: "A History of Pharmacy in Painting," "Early Seattle Drug Stores," "Seattle Waterfront: The Shore, The Ships, The Cargo," all June 1-July 1.

MIDWESTERN

Akron, Ohio, Art Institute: "Collector's Items," May 2-June 11; "John Freeman," Apr. 21-June 25; "Jody Klein," May 23-June 25.

Bloomfield Hills, Mich., Cranbrook Institute of Science: "Leonardo da Vinci, the Scientist," May 1-Sept. 30.

Bloomfield Hills, Mich., Cranbrook Institute of Science: A three-dimensional moon model. Shows, in full relief, the surface of the visible side of the moon.

Canton, Ohio, Art Institute: "28th Annual May Show," "High School Graphic Design," both to June 4.

Cherokee, Iowa, Sanford Museum: "Civil War Centennial Exhibition," Apr. 23-July 4.

Chicago, Ill., McCormick Place Art Gallery: "Corcoran Biennial," June 9-29; AFA Traveling Exhibition.

Cincinnati, Ohio, Art Museum: "Albert P. Strietmann Collection," Feb. 7-Aug. 31; "Annual Exhibition of Work by Students of the Art Academy of Cincinnati," May 20-Sept. 10; "Indian Sculpture, lent by the Kevorkian Foundation,"—Sept. 1.

Cincinnati, Ohio, Contemporary Arts Center: "Interior Valley Competition," May 20-Aug. 10.

Cincinnati, Ohio, Taft Museum: "Cincinnati and the Civil War," Apr. 14-Sept. 4.

Cleveland, Ohio, Health Mu-

seum: "The Evolution of an Evolutionist." An exhibit created in the memory of Charles Darwin; new installation.

Cleveland, Ohio, Museum of Art: "43rd May Show," "Mediterranean Embroideries," both May 10-June 11; "The Work of Maurice Prendergast," June 21-July 30.

Columbus, Ohio, Gallery of Fine Arts: "Young America 1960," "Columbus Art League, Fifty-First Annual May Exhibition," both May 5-June 5; "Drawings by Joseph Stella," June 9-30.

Columbus, Ohio, Museum of Arts and Crafts: "Civil War Drawings," May 27-June 18, Smithsonian Traveling Exhibition.

Des Moines, Iowa, Art Center: "Los Angeles Painters Show," June 23-July 16; "Brasilia—A New Capital," "John and Dorothy Rood Collection," both through June 18, Smithsonian Traveling Exhibitions.

Detroit, Mich., Historical Society and Museum: "Detroit, How You Have Changed," through Aug. 20; "Spotlight on Wyandotte,"—June 31.

Worcester Art Museum Acquires Mephitis Mephites*



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Detroit, Mich., Institute of Arts: "The Archives of American Art—A Survey of the Collection," May 2-June 4; "Drawings from the Institute's Permanent Collection," May 2-July 22; "Fifty-First Exhibition for Michigan Artists," May 19-Aug. 13; "James N. Rosenberg: Portrait of a Painter and a Patron," June 13-July 9.

Fort Worth, Tex., Art Center: "Museum Purchase Fund," June 1-30, AFA Traveling Exhibition; "Designed for Silver," May 20-June 15, Smithsonian Traveling Exhibition.

Fort Worth, Tex., Children's Museum: Memorial Hall of Texas History. The Period Room corridor and first section of the chronological story are now open to the public. Twenty-one exhibit cases and six full size period rooms are on view; new installation.

Houston, Tex., Museum of Fine Arts: "World of Fantasy," June 11-Aug. 20.

Indianapolis, Ind., John Herron Art Museum: "Fifth Biennial Indiana Ceramic Exhibition," May 14-June 4; "David K. Rubins," "Work by Young Artists, Saturday Morning Classes, Herron Art Museum," both June 4-18.

Little Rock, Ark., Arts Center: "Paintings from San Francisco Art Association—'The Individual and his World,'" June 1-Aug. 31; "11th Annual Southwest Print and Drawing Exhibition," June 18-July 9.

Manitowoc, Wisc., Rahr Civic Center and Public Museum: "Edward A. Boerner—Mel Kishner Painting and Sculpture," June-Oct. 31.

Milwaukee, Wisc., Art Center: "Venice Biennale Prize-Winners," May 11-June 11, AFA Traveling Exhibition; "Anneliese and Leo Steppat, Wisconsin Artists," June 18.

Milwaukee, Wisc., Public Museum: "Story of Sin." An Afri-

CURRENT EXHIBITIONS

Color Indicates Permanent Installations

can lion cub was brought back from the Cudahy-Massee-Milwaukee Museum African Expedition of 1928-29, and is now a part of the African lion diorama at the Museum. A second exhibition: "Peoples of Peru."

Minneapolis, Minn., Institute of Arts: "Paintings by Lester Johnson," through June 11; "Lithographs by Daumier," through June 12; "Sculpture by Robert Klippel," June 6-25; "Photography in the Fine Arts," June 14-Sept. 3.

Minneapolis, Minn., Walker Art Center: "Faces and Figures," through June 4; "The Arts of Denmark," May 7-June 18; "Paintings by Cameron Booth," May 14-June 25.

San Antonio, Tex., Marion Koogler McNay Art Institute: "New Spanish Painting and Sculpture," May 14-June 12.

Springfield, Mo., Art Museum: "Civil War Drawings," July 1-Sept. 17, Smithsonian Traveling Exhibition.

St. Louis, Mo., City Art Museum: "Favorite Prints—A Salute to Mary Powell," May 3-July 5; "Bingham Sesquicentennial Exhibition," May 16-June 30.

St. Paul, Minn., Minnesota Historical Society: "Civil War Drawings II," May 27-June 18, Smithsonian Traveling Exhibition.

Toledo, Ohio, Museum of Art: "Treasures From Thailand," May 12-June 11; "Recent Accessions," June-Aug.; "UNESCO's Third Major Project," May 14-June 11.

Waterloo, Iowa, Grout Historical Museum: "Puppets of Antiquity," May 2-June 30.

SOUTHERN

Athens, Ga., University of Georgia, Museum of Art: "Annual Exhibition of Athens Art Association Members' Paintings," through June.

Atlanta, Ga., Atlanta Art Association: "History of the Rose in Textiles," April 26-June 11.

Baton Rouge, La., Art Commission: "Third Louisiana Landscape Architecture Exhibition," June 11-July 2.

Chapel Hill, N.C., University of North Carolina, Ackland Art Center: "Prints by Munakata," through June 18, Smithsonian Traveling Exhibition.

Charleston, S.C., Gibbes Art Gallery: "Impressionism in Sculpture," May 23-June 20, AFA Traveling Exhibition.

Chattanooga, Tenn., George Thomas Hunter Gallery of Art: "Americans—A View from the East," through June 27, Smithsonian Traveling Exhibition.

Columbia, S.C., Museum of Art: "Hans Moller," June 4-28; "Four Graduate Painters," June 4-30; "Giovanna Menaboni," June 18-July.

Columbus, Ga., Museum of Arts and Crafts: "Original Graphic Arts of Modern Masters," "Ceramics of Lee and Peg McCarty," both through June 30.

Coral Gables, Fla., University of Miami, Joe and Emily Lowe Art Gallery: "9th Annual Members' Exhibition," May 14-June 25.

Greensboro, N.C., Junior Museum: "Children's Art from Italy," June 15-July 16.

Honolulu, Hawaii, Academy of Arts: "Gandhara Sculpture," June 1-30, Smithsonian Traveling Exhibition.

Huntington, W.Va., Huntington Galleries: "Monet and the Giverny Group," May 24-June 14, AFA Traveling Exhibition.

Jacksonville, Fla., Art Museum: "Adult Education Student Exhibition," June 4-21; "Two-Man Show, Ann Williams and Myrtle Brook," June 4-30.

Key West, Fla., Martello Gallery and Museum: "2nd International

Hallmark Art Award," May 23-June 18.

Louisville, Ky., J. B. Speed Art Museum: "Prints by Sickert, Vallotton and Signac," June 1-22; "International Prints," June 9-30, AFA Traveling Exhibition; "American Art Nouveau Posters," June 1-30; "Contemporary Japanese Drawings," June 10-30, both Smithsonian Traveling Exhibitions; "Contemporary Swedish Architecture," June 1-25, Smithsonian Traveling Exhibition.

Memphis, Tenn., Brooks Memorial Art Gallery: "Thai Painting," June 1-30, Smithsonian Traveling Exhibition.

Miami, Fla., Museum of Modern Art: "Paintings and Watercolors by Martin Hoffman," May 30-June 17; "Good Design," May 30-July 2.

Montgomery, Ala., Museum of Art: "Directoire-Empire Textiles," through June, Scalamandre Traveling Exhibition.

New Orleans, La., Isaac Delgado Museum of Art: "Artists' Annual Exhibition," May 14-June 11; "Impressionist and Post-Impressionist Masters," to be shown at the Knoedler

Galleries, New York, to benefit the museum Accessions Fund, May 9-June 30.

Palm Beach, Fla., Norton Gallery and School of Art: "Norton School of Art Workshop Show," June 2-11; "Norton Childrens Exhibition," June 18-25.

Pensacola, Fla., Art Center: "Textiles of the Italian Renaissance," through June, Scalamandre Traveling Exhibition; "The Bible: Chagall's Interpretations," May 15-June 5, AFA Traveling Exhibition; "Contrasts," June 10-July 30, Smithsonian Traveling Exhibition.

Raleigh, N.C., Museum of Art: "Venus and Europa." A fine example of neo-classical painting by Benjamin West. The painting signed and dated "B. West 1770," is a recent gift by Commissioner of Agriculture and Mrs. L. Y. Ballentine.

Richmond, Va., Museum of Fine Arts: "Home Front, 1861," May 12-Sept. 3.

Savannah, Ga., Telfair Academy of Arts and Sciences: "Our Town," May 23-June 5.

Williamsburg, Va., Colonial Williamsburg: "Civil War Exhibition," at the Abby Aldrich Rockefeller Folk Art Collection, through July 30.

EASTERN

Albany, N.Y., Institute of History and Art: "26th Annual Regional Exhibition by Artists of the Upper Hudson," June 7-July 4.

Allentown, Penna., Art Museum: "Modern Mosaics of Ravenna," June 1-July 15; "Two French Realists: Callot and Daumier," June 10-July 30, both AFA Traveling Exhibitions.

Andover, Mass., Addison Gallery of American Art: "New Work and Teamwork—The Architects Collaborative, 1946-1961," May 20-July 4.

Baltimore, Md., Museum of Art: "Four Women Artists," May 28-July 16; "Watercolors by John H. Scarff," May 9-June 25; "Rembrandt, Master Etcher," May 2-July 23; "XXI Ceramic National Exhibition," June 11-July 2.

Baltimore, Md., Peale Museum: "Baltimore During the Civil War," April 9-June 4.

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Color Indicates Permanent Installations

Baltimore, Md., Walters Art Gallery: "Underwater Archaeology in Israel," May 22-June 22; "17th Century French Painting," through June 11; "Majolica from The Walters Collection," opens June 10.

Binghamton, N. Y., Roberson Memorial Center: "Members' Exhibition," May 15-June 11; "Karl Schrag Retrospective Exhibition," May 21-June 11, AFA Traveling Exhibition.

Boston, Mass., Arts Festival: "10th Exhibition," June 9-25.

Boston, Mass., Museum of Fine Arts: "18th Century French Printed Cottons," through July 23; "19th Century Paintings," May 2-through summer; "The Artist and the Book: 1860-1960," May 4-July 16.

Boston, Mass., Hayden Planetarium: "Giant Worlds of Ice," April 4-July 2.

Brooklyn, N. Y., Museum: "Three Centuries of Drawings," through July; "Children's Exhibition," May 20-June 4.

Burlington, Vt., Robert Hull Fleming Museum: "Student Art 1961," May 14-June 4; "An Alumnus Collects," May 14-June 12; "New Acquisitions and Discoveries," June 9-29.

Cambridge, Mass., Fogg Art Museum: "A Special Exhibition of Classical Art and Antiquities," May 2-Sept. 20; "Works of Art by the Members of the Class of 1911," June 5-30; "Works of Art from the Collections of the Class of 1936," June 11-Aug. 25.

Hagerstown, Md., Washington County Museum of Fine Arts: "Birds of Greenland," June 1-30, Smithsonian Traveling Exhibition.

Harrisburg, Penn., Pennsylvania Historical and Museum Commission: "The Technique of Fresco Painting," June 10-Aug. 15, Smithsonian Traveling Exhibition.

Hartford, Conn., Wadsworth Atheneum: "Primitive Art," July 2.

Huntington, N.Y., Hecksher Museum: "Sculpture Exhibition," May

14-June 11; "The America of Currier and Ives," June 15-Aug. 15, 1962.

Lenox, Mass., Berkshire Art Center: "New Generation in Italian Art," May 20-June 15, AFA Traveling Exhibition.

Lincoln, Mass., DeCordova Museum: "50 American Printmakers," April 30-June 11.

Montclair, N. J., Art Museum: "New Jersey Water Color Society," June 4-26; "Adult Art Exhibition," through June 11; "Selections from Permanent Collection," through June 26.

Newark, N. J., Museum: "Work by New Jersey Artists," May 5-June 11.

New Haven, Conn., Yale University Art Gallery: "Paintings and Sculptures from the Collection of the Albright Art Gallery, Buffalo, New York," April 27-Sept. 3.

New Haven, Conn., Yale University Art Gallery: An ancient Baptistry containing fragments of some of the oldest Early Christian paintings ever discovered, is part of the exhibition on "The Art of the Ancient Mediterranean and Near Eastern World." New installation.

New Haven, Conn., Peabody Museum of Natural History: Savanna Everglades Group. A diorama recently added to the habitat groups in the Hall of North American Environments.

New York, N. Y., American Academy of Art and Letters: "Work by Newly Elected Members and Winners of Honors and Awards," May 25-June 11.

New York, N. Y., American Museum of Natural History: "Preview: Man In Space," April 18-Sept.; "The Career of Charles R. Knight," through June 11; "Hummingbirds," through June 18, Hayden Planetarium: "On The Shoulders of Giants," May 2-June 26; "Your Weight on

Other Worlds," reopened in April.

New York, N. Y., Cooper Union: "Prints by Albrecht Dürer," March 13-June 23.

New York, N. Y., IBM Gallery: "New York Press Photographers Association," June 5-23.

New York, N. Y., Jewish Museum: "Israel London Collection of Paintings and Sculpture," May 4-June 22; "Sculpture and Graphic Art of Peter Lipman-Wulf," "Contemporary Jewish Ceremonial Art," both through June 22.

New York, N. Y., Metropolitan Museum of Art: "The Twelfth Century Apse from Fuentidueña," opened June 2.

New York, N. Y., Museum of the City of New York: "The Clintons of New York," April 12-Sept. 4; "King Arthur on Broadway," May 3-Oct.; "Marine Drawings by Samuel Ward Stanton," May 18-Sept.

New York, N. Y., Museum of Contemporary Crafts: "Artist-Craftsmen of Western Europe," Sept. 10.

New York, N. Y., Museum of Modern Art: "Futurism," May 30-Sept. 12; "Boccioni Drawings and Etchings," May 30-Aug. 6; "Richards Memorial Research Laboratories," June 6-July 9; "The Mrs. David M. Levy Collection," June 9-July 9.

New York, N. Y., Museum of Primitive Art: "The Traditional Arts of Africa's New Nations," May 17-Sept.

New York, N. Y., New-York Historical Society: "It Paid to Advertise," through June 31; "A Nation Divided: 1861-1862," April 7-Dec. 30.

New York, N. Y., Pierpont Morgan Library: "Recent Acquisitions," May 2-June 16.

New York, N. Y., Riverside Museum: "Joseph Lomoff—Painter," "Warren Wheelock—Sculptor," both May 7-June 4.

New York, N. Y., Scalaramdré Museum of Textiles: "Silks of the Victorian Era," through June, Scalaramdré Traveling Exhibition.

New York, N. Y., Solomon R. Guggenheim Museum: "Paintings from the G. David Thompson Collection," May 25-Aug. 31.

Pawtucket, R. I., Old Slater Mill Museum: Was built by Samuel Slater in 1793, to house the first successful reproduction in America of the Arkwright system for spinning cotton by machines using waterpower. The permanent exhibition shows the transition from household manufactures to the factory system.

Paterson, N. J., Paterson Museum: "Minerals in Medicine," new installation.

Philadelphia, Penna., Art Alliance: "Flowers," May 26-Sept. 20; "Philadelphia Water Color Club, Permanent Collection," June 6-Aug. 16; "What in the World?," June 12-Sept. 17; "Everyman's Gallery," June 14-Sept. 17.

Philadelphia, Penna., Commercial Museum: "The Young in Art," May 26-Aug.; "Italy Today," "Japan Today", continuing indefinitely.

Philadelphia, Penna., Museum

College of Art: "Young Designers," June 6-30.

Pittsfield, Mass., Berkshire Museum: "Paintings by Rudy Helmo and Betty Herzog," June 1-25.

Poughkeepsie, N. Y., Vassar College: "The Magnificent Enterprise: Education opens the Door," May 15-June 15, Smithsonian Traveling Exhibition.

Reading, Penna., Museum and Art Gallery: "Oriental Paintings and Prints from the Museum Collection," June 4-25.

Rochester, N.Y., Museum of Arts and Sciences: "Freedom to Learn: Women's Education 1861-1921," through Sept. 30.

Scranton, Penna., Everhart Museum: "Mies Van Der Rohe," June 1-25, Smithsonian Traveling Exhibition.

Springfield, Mass., Museum of Fine Arts: "Springfield Art League National Jury Exhibition," May 28-June 25.

Staten Island, N. Y., Institute of Arts and Sciences: "Annual Spring Exhibition, S.I. Artists," May 14-June 18; "Selection of Crosses lent

by Newark Museum," to June 30.

Syracuse, N.Y., Everson Museum of Art: "Arts and Cultural Centers," June 8-30, Smithsonian Traveling Exhibition.

Utica, N. Y., Munson-Williams-Proctor Institute: "Industrial Designers Institute," June 3-July 2; "New Painting From Yugoslavia," May 19-June 30, AFA Traveling Exhibition.

Washington, D.C., Corcoran Gallery of Art: "Easter Eggs and Other Precious Objects by Carl Fabergé," to be extended indefinitely through the summer.

Washington, D.C., Library of Congress: "United States Transportation Maps," May 1-June 15.

Washington, D.C., National Gallery of Art: "Chinese Art Treasures," May 28-Aug. 13.

Washington, D.C., Phillips Collection: "Recent Paintings by Richard Diebenkorn," May 19-June 26.

Wilmington, Del., Society of the Fine Arts: "47th Annual Delaware Exhibition," May 5-June 4; "Abstract Expressionist Drawings," June 1-30, AFA Traveling Exhibition.

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Santa Fe, N. M., Museum of International Folk Arts: **Curator of Collections.** Require person with background of interest in Folk Arts and concomitant study and experience in this/or related fields; to work closely with the Director in the study and documentation of the existing world-wide collections and to plan and develop a long-range program on research, acquisition, conservation, publication, and exhibition. Appointment will become effective January 1, 1962. Liberal fringe benefits. Salary: \$7,980. Write to Mr. William Friedman, Director, Museum of International Folk Art, Santa Fe, New Mexico.

STAFF CHANGES

Baltimore, Md., Walters Art Gallery: **Geoffrey W. Fielding** has been appointed Director of Public Relations. He succeeds Mrs. C. Herbert Sadtler.

Bloomfield Hills, Mich., Cranbrook Institute of Science: **George S. Cooper** has been appointed Instructor in Physics.

Cincinnati, Ohio, Historical and Philosophical Society: **Louis S. Tucker** has been elected Director of the Society. He succeeds Herbert F. Koch.

Fort Donelson National Military Park, Tenn.: **Richard G. Hopper**, former Superintendent of De Soto National Memorial, Florida, has been appointed Superintendent.

Knoxville, Tenn., University of Tennessee, Frank H. McClung Museum: **Alfred K. Guthe**, former Curator of Anthropology, at the

Rochester Museum of Arts and Sciences, has been appointed Director, and will also serve as Professor and Head of the Department of Anthropology of the University.

La Jolla, Calif., Art Center: **Lillian B. Fayman** has been appointed Secretary to the Director. She succeeds Georgia McCullough who has resigned.

Los Angeles, Calif., County Museum: **Randall T. Chew III** has been appointed Curator of Mineralogy.

North Andover, Mass., Merrimack Valley Textile Museum: **Lois North** has been appointed Associate Curator.

Philadelphia, Penna., Museum of Art: **Kneeland McNulty**, former Assistant Curator has been appointed Associate Curator of the Print Department.

Rocky Mountain National Park, Colo., **Allyn Hanks** has been appointed Superintendent.

Washington, D. C., United Nations Educational, Scientific, and Cultural Organization: **Warren S. Wooster**, has been appointed Director of the newly created Office of Oceanography.

Winston-Salem, N. C., Old Salem, Inc.: **John Van MacNair, Jr.**, former Assistant Director of Public Relations for Colonial Williamsburg, has been named Executive Director.

York, Penna., Historical Society of York County: **Edward Keyworth** has been appointed Curator, (part-time only).

West Palm Beach, Fla., Norton Gallery and School of Art: **Ann Watkins Woods** former Curatorial Assistant at the National Gallery of Art, Washington, D. C., has been appointed Assistant to the Director.

PERSONALS

William McCormick Blair has been elected to the Board of Trustees of the American Federation of Arts, New York.

Elizabeth Bowen, novelist; **Graham Greene**, novelist; **Henry**

Moore, sculptor; **Charles Snow**, novelist; **Rufino Tamayo**, painter; and **Jacques Villon**, painter; have been elected Honorary Members of the American Academy and National Institute of Arts and Letters, New York.

Laurence Vail Coleman, recently Director of the American Association of Museums, Washington, D.C., has accepted a temporary appointment as Associate beginning July 1, at Cranbrook Institute of Science, Bloomfield Hills, Michigan.

Jack B. Collins has been elected Executive Vice-President of the Sleepy Hollow Restorations, Tarrytown, New York.

Wesley Frank Craven, **Clarence L. Ver Steeg**, **Stephen T. Riley**, **Frederick B. Tolles**, and **Mildred Campbell** have been elected to three-year terms as members of the Council of the Institute of Early American History and Culture, Williamsburg, Virginia.

Harry Crosby, **Mrs. E. F. Foster Copp**, and **Mrs. Harold C. Torbert**, have been elected to the Board of Directors of the Art Center, La Jolla, California. Re-elected for three-year terms were: **Walter I. Ames**, **Charles E. duPont**, **William E. Ferguson**, **John W. Thiele**, **Willard P. VanderLaan**, **Mrs. Roger R. Revelle**, **Mrs. Hugo L. Lucie**, and **Mrs. William Robert Munroe**.

Jean Theodore Delacour, recently retired Director of the Los Angeles County Museum and President-Emeritus of the International Council for Bird Preservation, has been given the Addison Emery Verill Medal for 1961 by Yale University's Peabody Museum.

Edward H. Dwight, Director of the Milwaukee Art Center, began a six months' leave of absence on March 1, to carry out research on the works of the 19th-century American artist John James Audubon. Mrs. Laurence Donovan, administrative assistant, will be in charge of the Center during his absence.

Positions and Personnel

Laurence H. Eldredge has been re-elected President of the Board of Directors of the Art Alliance, Philadelphia, Pennsylvania. Also re-elected were **Raphael Sabatini**, Vice-President in charge of art; **Edward Starr Jr.**, Vice-President in charge of finance; **William P. Wood**, Treasurer, and **Theo B. White**, Secretary.

Robert G. Goelet and **J. William Middendorf II**, have been elected to the Board of Trustees of the New York Historical Society, New York.

Alice Hanson and **Art Swan** have been elected Trustees of the Olmsted County Historical Society, Rochester, Minnesota.

Robert T. Hatt, Director of the Cranbrook Institute of Science, Bloomfield Hills, Michigan, will leave for Rhodesia, July 1, where he will engage for three months in the study of mammals. James A.

Fowler will be acting Director in his absence.

H. Kendall Kelley has been elected a member of the Board of Trustees of the Western Reserve Historical Society, Cleveland, Ohio.

E. Fred Johnson has been elected President of the Gilcrease Institute, Tulsa, Oklahoma.

A. C. Stellhorn has retired as Vice-President of the Concordia Historical Institute, St. Louis, Missouri.

John Hay Whitney has been elected a Trustee of the National Gallery of Art, Washington, D. C.

DECEASED

Robert D. Cowen, member of the Board of Trustees of the Cleveland Health Museum, Cleveland, Ohio, died in a plane crash on March 9.

S. Nelson Hicks, Jr., a member of the Board of Trustees of the Mu-

seum of Natural History, Denver, Colorado, died on November 27, 1960.

Roger Kinnicutt, former President of the Worcester Art Museum, Worcester, Massachusetts, died on February 2.

James McGowan, Jr., a member of the Board of Managers of the Franklin Institute, Philadelphia, Pennsylvania, died on March 15.

Mildred Courtney Mallory, a devoted member of the Mystic Seaport, Mystic, Connecticut, and wife of the Chairman of the Board of Trustees, died on March 20.

Mrs. Blanche N. Mills, a member of the Department of Accessories at the Museum of Natural History, Denver, Colorado, died on November 8, 1960.

Walker Van Riper, honorary Curator of Insects and Spiders at the Museum of Natural History, Denver, Colorado, died on January 15.

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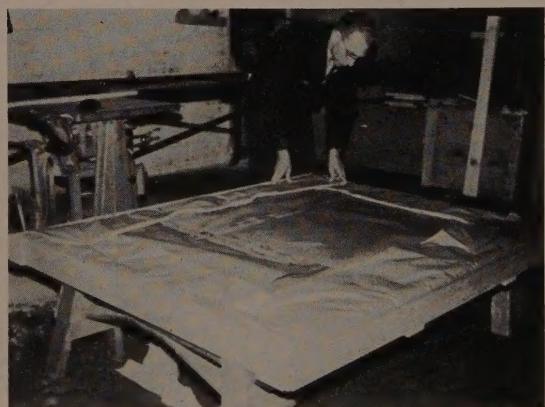
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HIGHLIGHTS



The Hartford State House (1), the most historic building in Connecticut, was opened to the public as a museum on January 2, 1961. This building, designed by Charles Bulfinch of Boston and completed in 1796, served as the seat of Connecticut government until 1879 and as Hartford's Municipal headquarters until 1915. The State House contains examples of the art and furniture of the Federal Period, important documents and other memorabilia. The Connecticut Historical Society, which maintains the building, began the present restoration about a year ago.



The Roosevelt Museum (2) on the grounds of the Little White House, Warm Springs, Georgia, a new and beautiful museum associated with the life of President Franklin D. Roosevelt, has recently been opened to visitors. The building was formerly the summer home of a close friend of the President, Miss Georgia Wilkins. In her will she left the cottage, her favorite home, to become one of the group now maintained as a public memorial to her famous neighbor. The museum, with indirect lighting from cornices and ceiling, has displays of personal belongings and gifts from many countries, including England, Australia, Canada, Yugoslavia, Turkey, Denmark, and the Netherlands.



The mural, "Independence and the Opening of the West," by Thomas Hart Benton (3) was dedicated at the Truman Library in Independence, Missouri, on April 15. The mural, painted at a cost of \$60,000, was made possible by The Edwin Austin Abbey Trust Fund for Mural Painting and the Harry S. Truman Foundation. It was completed in a little over six months following two years of preparation and research. The dedication took place on the artist's birthday and was attended by many Washington dignitaries, and educators from all over the United States.

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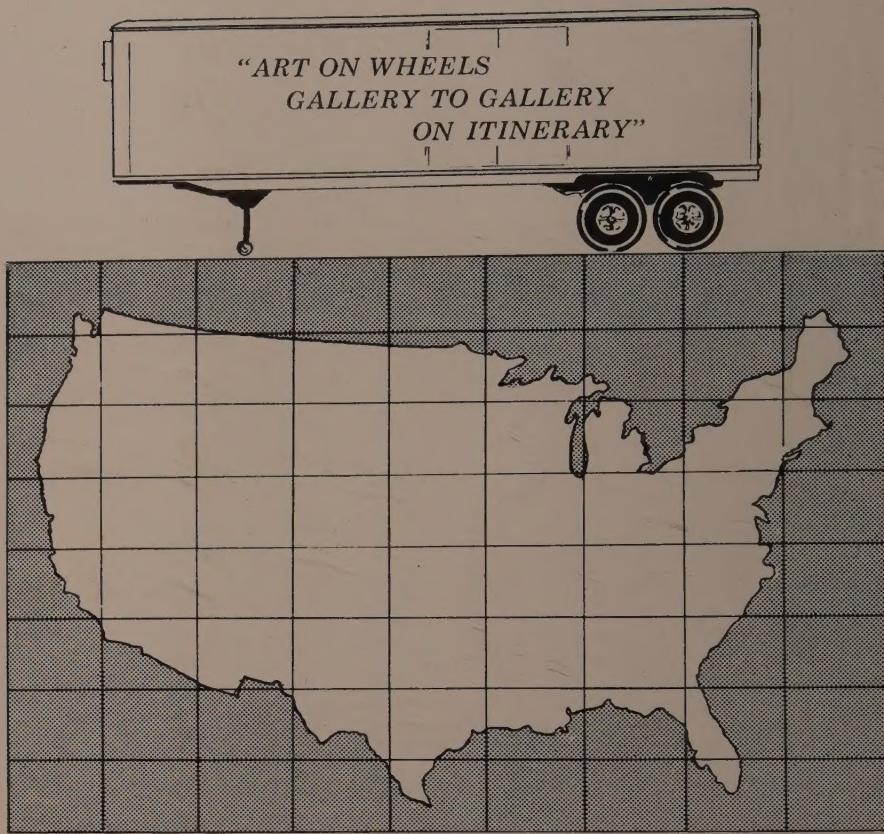
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